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BLOOD-PRESSURE DETERMINATIONS IN PATIENTS WITH ESSENTIAL HYPERTENSION*

III. Evaluation of Sympathectomy over a Three-Year to Five-Year Period

DAVID AYMAN, M.D.,† AND ARCHIE D. GOLDSHINE, M.D.‡

BOSTON

THE treatment of essential hypertension is far from established. The hope of successful therapy by renal extract has not materialized. Sympathectomy by one method or another has been performed in the past eighteen years in about 3000 cases, and the reports of results are also becoming numerous. The literature, however, indicates widely varying opinions concerning the effect of the different operations on the levels of blood pressure and the course of the disease. The present paper reports some preoperative and postoperative observations made during the past six years in an unusually controlled group of patients with essential hypertension. The observations of blood pressure were made not only by the usual clinic methods, but in addition by readings taken at the start of, during and after twenty-minute clinic rest periods[1] and the determination of the blood-pressure levels, made at home by the patients themselves both before and after operations.[2] In some cases, the data have been obtained continuously over periods as long as five years.

LITERATURE

Sympathectomy as a therapeutic measure for hypertension was apparently first suggested by Daniélopolu[3] in 1923. The first operation seems to have been done by Rowntree and Adson[4] in 1925. The second, third and fourth lumbar ganglions were removed without significant effect in a patient with malignant hypertension. In 1927, Pieri[5] described his technic of splanchnicectomy for hypertension, but did not mention his results.

These initial efforts have undergone much elaboration and modification. The first change was by Adson[6] himself, who cut the sympathetic nerves by resection of the anterior root.[6] This operation, requiring laminectomy, was apparently effective but has been given up because of its difficulty and high mortality. In 1934, Craig and Brown[7] carried out unilateral and bilateral infradiaphragmatic splanchnicectomy, in a few cases with resection of the first and second lumbar ganglions. In 1935, Peet[8] reported his initial studies of supradiaphragmatic bilateral splanchnicectomy. In 1937, Allen and Adson[9] described subdiaphragmatic splanchnicectomy with lumbar ganglionectomy, adding, in some cases, partial adrenalectomy. In 1938, we[10] had a case subjected to a seven-stage, almost total, bilateral sympathectomy. In 1940, Smithwick[11] combining the Pieri–Peet and Allen–Adson methods, described a two-stage bilateral transdiaphragmatic operation by which he removes the entire great splanchnic nerves, their aortic branches and the sympathetic ganglions—the ninth, tenth, eleventh and twelfth dorsal ganglions, the first lumbar and occasionally the second lumbar ganglion. Finally, Grimson[12] has reported a group of almost total, bilaterally sympathectomized cases.

The results in these and many other studies are widely divergent; they are not analyzed here.

METHODS USED IN THIS STUDY

Most therapeutic studies of hypertension are seriously marred by unscientific methods of control; the studies of surgical therapy thus far reported are no exception. In a previous paper, one of us (D. A.[1]) indicated pitfalls to be avoided and outlined suggestions for proper controls in evaluating such therapy. The present paper is a report of findings made by these methods, includ-

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From the Medical Clinic, Beth Israel Hospital, and the Department of Medicine, Tufts College Medical School.

†Instructor in medicine, Tufts College Medical School; associate visiting physician, Beth Israel Hospital.

‡Junior visiting physician, Beth Israel Hospital.

TABLE 1. *Preoperative and Postoperative Findings in 13 Patients with Essential Hypertension Subjected to Sympathectomy.*

CASE NO.	AGE	SEX	DURATION OF HYPERTENSION	BLOOD-PRESSURE OBSERVATIONS					
				PREOPERATIVE			POSTOPERATIVE		
				Duration of Clinic Visits with 20-Min. Rest Periods	No. of Clinic Visits with 20-Min. Rest Periods	Duration of Home Blood-Pressure Studies	Duration of Clinic Visits with 20-Min. Rest Periods	No. of Clinic Visits with 20 Min. Rest Periods	Duration of Home Blood-Pressure Studies
			yr.	*mo.*		*mo.*	*mo.*		*mo.*
1	49	M	10	0	0	0	12	31	0
2	45	M	9	13	17	0	48	89	48
3	38	M	2	3	12	1			
4	35	F	15	7	19	3	51	29	51
5	42	F	4	6	8	0	60	12	1
6	24	M	1/12	0	0	0	7	7	0
7	41	M	1	1	4	1	54	41	30
8	33	F	2	1½	6	1½	154	15	54
9	33	F	8/12	7	10	6	57	12	57
10	37	F	8	3	10	2½	56	44	56
11	44	F	8	10	10	2½	54	45	54
12	48	F	6	12	18	4	39	39	39
13	33	F	4	0	0	7	18	7	½

CASE NO.	OCULAR FUNDI (KEITH-WAGENER)	HEART SIZE		ELECTRO-CARDIO-GRAM		INTRA-VENOUS PYELOGRAM	ALBUMIN-URIA	RENAL FUNCTION	LOWEST BLOOD PRESSURE AFTER SODIUM AMYTAL TEST	SYMPTOMS	
		PREOP.	POSTOP.	PREOP.	POSTOP.					PREOP.	POSTOP.
	Grade								*mm./Hg.*		
1	4	N	N	+	+	N	C	N	150/84	+	±
2	3	N	N	+	±	N	0	N	-	+	++
3	4	N	N	+	+	N	C	N	220/138	+	0
4	3	N	N	N	N	N	0	N	-	+	±
5	2	+	+	+	N	N	I	N	-	+	±
6	4	+	+	+	+	N	C	+	138/98	+	±
7	3	N	±	+	+	N	I	N	96/66	0	0
8	2	N	N	N	-	?N	C	N	146/100	+	0
9	2	N	N	N	N	N	0	N	-	+	±
10	3	N	N	+	N	N	0	N	120/80	+	0
11	3	+	N	N	N	+	0	N		+	0
12	3	+	±	+	±	N	I	N		+	0
13	2	N	-	N	-	N	0	N	114/80	+	0

C = constant; N = normal; + = enlarged, abnormal or present; 0 = none; I = inconstant; - = not available.

ing blood-pressure determinations at each clinic visit during a twenty-minute rest period, placebo treatment and, in addition, the method of having the blood pressure taken at home by an adequately instructed person or by the patient himself. In most cases, home observations were made both before and after operation. Postoperative observations were made almost continuously in some cases over a three- to five-year period. All blood-pressure readings, unless otherwise indicated, were made with the patient seated, the arm resting on a table.

Further standard methods of study included intravenous pyelography, sedative tests, pressor tests (breath-holding[13] and ice water[14]), electrocardiograms, seven-foot roentgenograms, observations of the ocular fundi, postural tests[9, 15] and renal-function tests (nonprotein nitrogen, phenolsulfonephthalein and dilution-concentration). Most of these tests were repeated postoperatively, usually once a year.

Details of Cases Studied

Fourteen cases were studied before and after sympathectomy. In Table 1 are listed the preoperative and some of the postoperative findings in each case. In Case 14, death occurred a few days after operation. Cases 1, 5 and 6 were not studied preoperatively by the home method but have been evaluated by the usual clinical methods and in addition twenty-minute rest periods. This table also shows that observations were detailed and were made over a long period. The patients represent all stages of hypertension, including 2 cases with papilledema. The heart was either normal in size or only slightly enlarged. The electrocardiograms varied from normal to the usual signs of left-ventricular strain. The patients in Cases 10 and 11 had attacks of angina pectoris on exertion; those in Cases 1, 7, 11 and 12 had cerebral hemorrhages during the preoperative period. The patient in Case 6 was the only one with renal failure. All the patients were under the age of fifty years at the time of operation.

Number and Types of Operations Employed

In Tables 2 and 4, it is seen that sympathectomy was performed in every degree of extensiveness. At the outset of the study, bilateral, two-stage supradiaphragmatic splanchnicectomy with resections of the tenth, eleventh and twelfth dorsal sympathetic ganglions was performed in 10 cases. In Case 4, an interval of four months with home and clinic study elapsed between the first and second stages, permitting evaluation of the unilateral operation. In 6 of these 10 cases, after adequate evaluation of the initial bilateral operation, further sympathectomy was done: a two-stage bilateral infradiaphragmatic resection of the first, second and third lumbar ganglions. In Case 7, this was followed by three more operations, in which the stellate ganglion and the dorsal ganglions through the eighth were removed on the right side, and the lower inferior cervical and first, second, sixth, seventh, eighth and ninth dorsal ganglions on the left side. This represented an almost total sympathectomy. In Case 10, a left supradiaphragmatic splanchnicectomy and a right dorsolumbar transdiaphragmatic splanchnicectomy were done. The latter consisted of the removal of the ninth, tenth, eleventh and twelfth dorsal ganglions, the first lumbar ganglion and the splanchnic nerves.[11] Finally, in Cases 12 and 13, a bilateral dorsolumbar transdiaphragmatic resection was done, an interval of seven weeks of home and clinic study elapsing between the two stages in Case 12. We are greatly indebted to Dr. Reginald H. Smithwick for the performance of all the operations.

Results of Sympathectomy

Blood-Pressure Levels

The chart (Fig. 1) of a successful case (Case 11) will first be discussed, and the details of our preoperative and postoperative methods and findings will be explained. This forty-four-year-old woman was first studied in our clinic from December, 1937, to April, 1938. At each clinic visit, she was seated in a quiet room, and blood-pressure readings were taken by one of us at the start of and during a twenty-minute rest period. Between readings, the patient was left alone. During these four months of study, the blood pressure varied markedly, but it can be seen that it averaged 240/124 (240 systolic, 124 diastolic). During the next two-and-a-half-month period of study, the twenty-minute rest periods were continued, placebo treatment was given, and the home blood-pressure method was started. A friend of the patient was taught to take her blood pressure and did so at morning and night. At each sitting, three or four readings were taken during a five-to-ten-minute period. During this time, the clinic readings, indicated by the vertical heavy columns, averaged 224/124; the home readings, shown by the continuous wavy lines, averaged 200/114. During this period, the patient had a mild cerebral hemorrhage with hemiplegia.

The first set of operations was a two-stage bilateral supradiaphragmatic splanchnicectomy consisting of resection of the greater splanchnic nerves and the tenth, eleventh and twelfth dorsal sympathetic ganglions. The patient was followed postoperatively for three months, during which the average clinic readings were 214/124 and the average home readings 184/114. It is clear that

the operations had little effect on the level of the blood pressure. The patient was then subjected to a two-stage bilateral lumbar sympathectomy in which the first and second lumbar ganglions were removed. Following this step, there was a dramatic drop in all readings, so that the average clinic readings became 156/100 and the average home readings 124/80. This change has persisted blood pressure was only slightly lower than before operation, running in the clinic at an average of 216/108 and at home at an average of 194/104. After a left dorsolumbar sympathectomy was done, a striking drop occurred; the average clinic levels became 140/84 and the average home levels 110/70. These levels have persisted up to the time of writing, a period of three and a quarter years

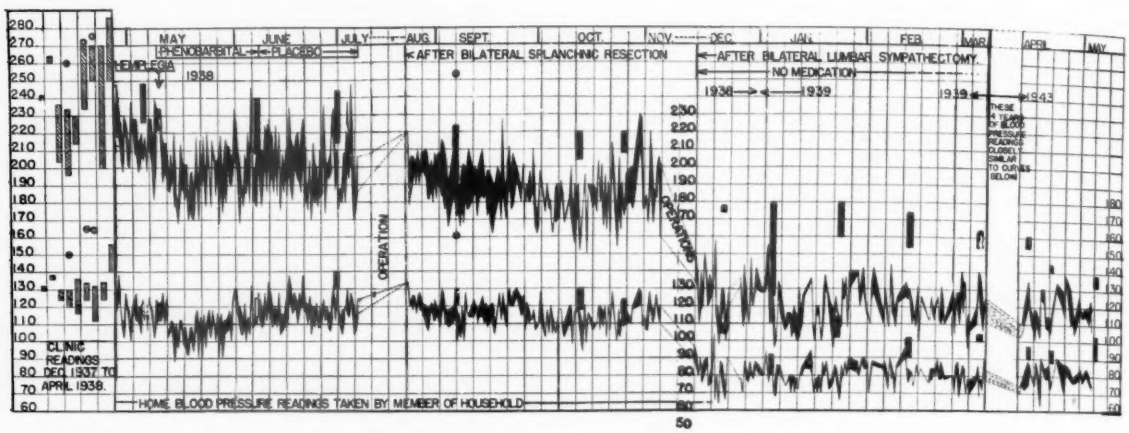

FIGURE 1. *Case 11.*

This chart shows five and a half years of preoperative and postoperative blood-pressure observations. The jagged continuous lines represent the home levels of blood pressure. The vertical columns, hatched or solid, indicate the clinic blood-pressure readings over a twenty-minute rest period. The end of the chart shows the last two months of 1943. The period between 1939 and 1943 is omitted for the sake of space, but the levels were unchanged.

to the present time. The end of the chart shows the readings during the last two months (April and May, 1943). The areas between 1939 and 1943, not charted, show exactly the same levels. The patient has continued taking her home readings, and has estimated that about eleven thousand readings have been made in the past five years; we have taken about one hundred and fifty clinic readings since the operation. This patient, unable to work more than four months a year prior to operation, is now working full time at the Boston Navy Yard.

Figure 2 presents the record of Case 12. The average levels of blood pressure rather than all the readings available have been plotted. The patient was a forty-eight-year-old woman who, prior to the beginning of this study, had a cerebral hemorrhage with good recovery. During one year of observation in the clinic with twenty-minute rest periods, the average blood-pressure levels were 220/120. Then, home readings taken by the patient were instituted, and over a four-month period the clinic levels averaged 250/120 and the home readings averaged 220/114. A right dorsolumbar sympathectomy was done and resulted in a pneumothorax. The patient convalesced for seven weeks. During this period, the after the last operation. The patient now performs all the duties of an active housewife.

Figures 1 and 2 indicate how most of the patients were studied so far as the levels of blood pressure are concerned. Table 2 lists the results in the remaining cases, using the average levels or trends of blood pressure. This table indicates that, in the majority of the cases observed, the results were unsatisfactory. It also shows the different types of operations done in each case. The numbers to the left of each blood-pressure reading indicate the length of observation in weeks, months or years that the average reading covers, and applies to both the clinic and the home readings during this period. Thus, in Case 3, the blood pressures taken for seven weeks in the clinic with twenty-minute rest periods averaged 230/146; for the next six weeks, the average readings in the clinic were 228/138 and the average home readings 222/136. After completion of the two-stage splanchnicectomy, the patient was followed for seven months up to his death, and during this period the clinic blood pressures averaged 236/144 and the home readings about the same, 226/136. It is clear, therefore, that this patient was not benefited by the operation so far as the blood-pressure levels are concerned, and

his death seven months after the operation indicates that the sympathectomy did not have any discernible effect on the progress of the disease. This case was one of Group 4 (Keith-Wagener[16]) The patient had a pneumothorax and so was allowed home for four months before the other side was done. It is seen that the unilateral operation had little or no effect on the blood-pressure levels,

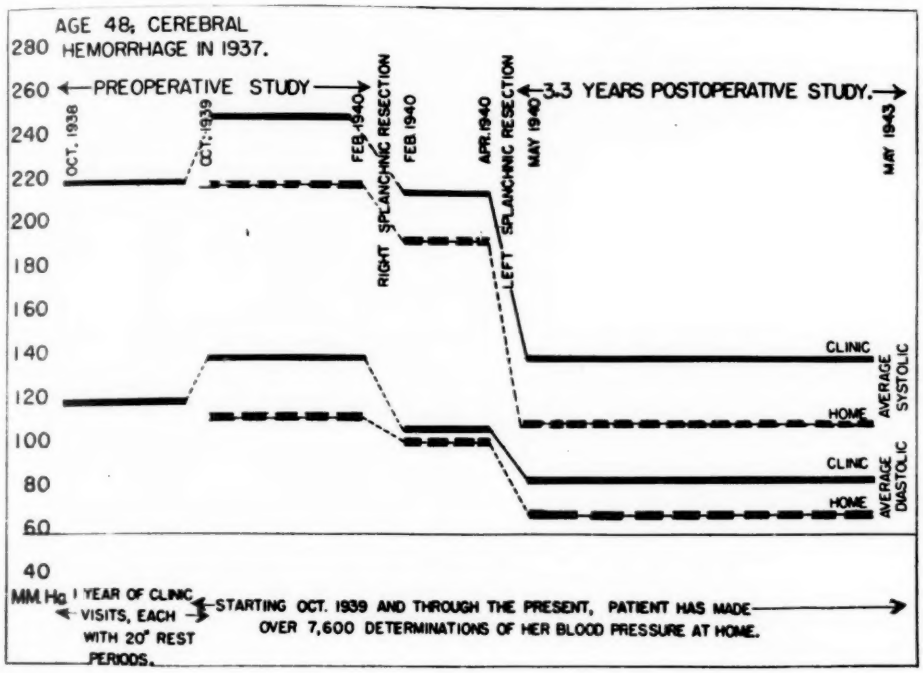

FIGURE 2. *Case 12.*

This chart shows the preoperative and postoperative average levels of blood pressure. The clinic levels are indicated by the solid black lines, and the home levels by the broken black lines. A period of seven weeks at home elapsed between the first and second stages of operation. The operation performed was the transdiaphragmatic dorsolumbar sympathectomy (Smithwick type).

hypertension with papilledema; headaches were improved after operation.

Efficacy of Type of Operation

Supradiaphragmatic splanchnicectomy. Of the 10 cases in which bilateral supradiaphragmatic splanchnicectomy was done as a first attempt to lower the blood pressure (Cases 1, 2, 3, 4, 5, 6, 7, 8, 9 and 11), only 1 case (Case 8) showed a significant drop in the clinic blood-pressure readings. We have arbitrarily chosen a minimum drop of 30 mm. systolic and 14 mm. diastolic as minimum evidence of any effect of the operation on the levels of blood pressure in the clinic or home. Turning to the home levels of blood pressure in these 10 cases, it is noted that Cases 4, 7, 8 and 9 showed significant drops in blood pressure. However, in only 1 case (Case 9) did the average blood-pressure level drop to normal. Case 4 in Table 2 is worth noting with reference to the findings after only one side of the splanchnicectomy was done. but that when the left side was operated on, there was a definite drop in the home levels, persisting for the next five years. If these cases are analyzed to compare the relation of effect of operation to grade of hypertension, it is found (Table 3) that the only case with a significant effect in the clinic level of blood pressure was of Grade 2. By the home method, 3 additional cases were found to have a drop, and these were Grade 2 or 3. It is unfortunate that in 2 of the 3 cases of Grade 4, there was no opportunity to have home observations made. In Case 5, which is labeled in Table 3 as having a questionable result, there was a brief period of home readings a year after operation. The home readings in this case were much lower than the clinic readings. As evidence of possible effect of operation, this case showed a marked postoperative change in the electrocardiogram: a deeply inverted T wave in Lead 1 gradually changed to an erect T wave, depressed ST in-

tervals in Leads 1 and 2 became normal, and an inverted T wave in Lead 4 became erect.

Supradiaphragmatic splanchnicectomy followed by lumbar sympathectomy. Table 2 indicates that of the 10 cases first subjected to splanchnicectomy, and 8). Of these 6 cases, only 1 (Case 11) had a drop in clinic level and a drop to a normal level by the home observations, lasting four and a half years to the present. Case 8 continued to maintain the improvement in clinic readings produced

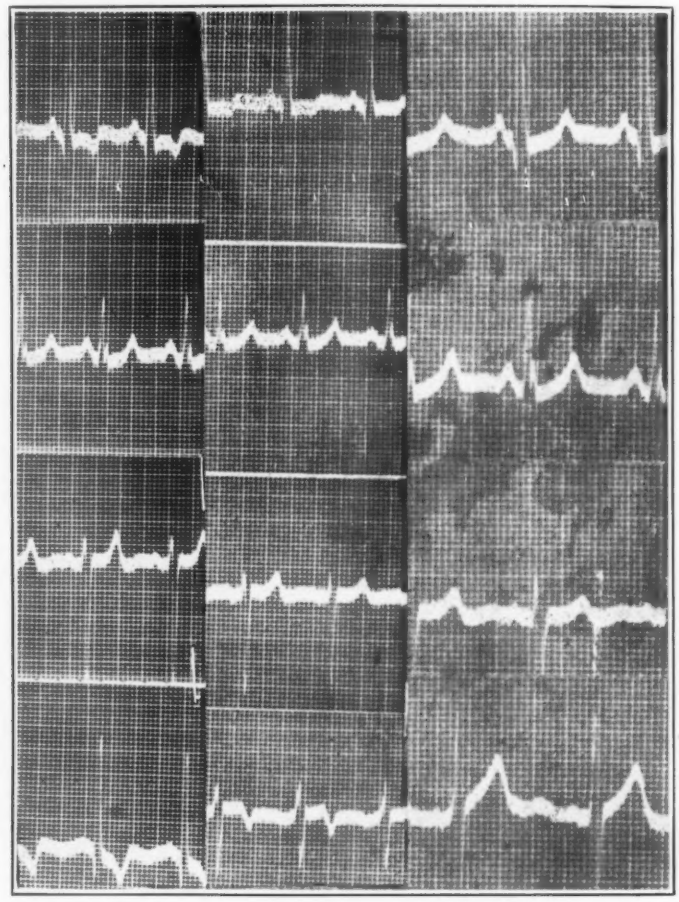

FIGURE 3. *Case 5.*

Three sets of electrocardiograms, taken in June, 1937, in March, 1938, and in May, 1943, respectively. During this period, although the T waves in Lead 1 became normal, there was no improvement in the blood-pressure levels obtained at the clinic.

6 (Cases 1, 4, 6, 7, 8 and 11) later underwent more extensive sympathectomy. In these cases, the further operations were two-stage bilateral infradiaphragmatic lumbar resections in which the first and second and occasionally the third lumbar ganglions and the sympathetic trunks were removed. These lumbar operations were performed at intervals varying from four weeks to one and a half years after the original splanchnicectomies. They were done because of failure of the original operations (Cases 1, 6, 7 and 11) and to observe whether more extensive removal of the sympathetic system would be more effective (Cases 4 by splanchnicectomy, and also showed a further drop in the home readings after the lumbar operations. On the whole, therefore, the addition of the lumbar operations in these 6 cases produced a beneficial effect in 2 cases (Grade 2 and 3). Table 3 shows that of the 4 unbenefited cases, 2 were Grade 4 and 2 were Grade 3.

Total sympathectomy. Total sympathectomy was carried out in only 1 case (Case 7). This patient was subjected first to supradiaphragmatic splanchnicectomy, then to resection of the lumbar ganglions, and then to three more stages in which the stellate ganglions down through the eighth

TABLE 2. *Average Preoperative and Postoperative Blood-Pressure Levels.*

Case No.	Preoperative Readings: Before Home Study		Preoperative Readings: After Home Study		Postoperative Readings: After Splanchnic Operation — Unilateral		Postoperative Readings: After Splanchnic Operation — Bilateral		Postoperative Readings: After Dorsolumbar Operation — Unilateral		Postoperative Readings: After Dorsolumbar Operation — Bilateral		Remarks
	period	*mm./Hg.*	*period*	*mm./Hg.*	*period*	*mm./Hg.*	*period*	*mm./Hg.*	*period*	*mm./Hg.*	*period*	*mm./Hg.*	
1	3 wk.	210 110 –		–		–	1½ yr.	230 120 –		–	1 yr.	200 120 –	Death from cerebral hemorrhage
2	1 yr.	246 122 –		–		–	4 yr.	222 124 206 112		–		–	Death from acute pulmonary edema and coronary occlusion
3	7 wk.	230 146 –	6 wk.	228 138 222 136		–	7 mo.	236 144 226 136		–		–	Death from cerebral hemorrhage
4		–	3 mo.	230 134 190 114	4 mo.	230 138 170 130	8 mo.	196 142 150 110		–	4¼ yr.	220 130 150 110	
5	6 mo.	234 132 –		–		–	5¼ yr. 2 mo.	230 130 184 106		–		–	
6	2 mo.	190 120		–		–	2 mo.	170 120		–	7 mo.	200 140	
7	1 yr.	224 146 –	4 wk.	220 144 210 134		–	4 wk.	192 134 180 120		–	1 mo.	206 144 194 132	4½ yr. after total sympathectomy: clinic, 180/114; home, 176/114.
8		–	6 wk.	196 136 196 136		–	2 mo.	150 114 150 116		–	4½ yr.	142 106 130 100	
9	3 mo.	194 114 –	7 mo.	200 112 164 88		–	4¾ yr.	178 108 126 76		–		–	
10		–	3 mo.	220 126 204 112		–		–		–	4¾ yr.	158 100 124 80	
11	4 mo.	240 124 –	3 mo.	224 124 200 114		–	3 mo.	214 124 184 114		–	4½ yr.	156 100 124 80	
12	1 yr.	220 120 –	4 mo.	250 140 220 114		–		–	7 wk.	216 108 194 104	3¼ yr.	140 84 110 70	
13		–	7 mo.	206 136 184 110		–		–		–	1½ yr.	136 94 108 64	

In each column of blood-pressure readings, the upper set is the clinic reading and the lower set the home reading.

dorsal ganglion on the right and the inferior cervical and first, second, sixth, seventh, eighth and ninth dorsal ganglions on the left were removed — an almost total sympathectomy. A small area of sweating over the left anterior chest confirms the

Table 3. *Results of Different Operations Compared with the Severity of the Hypertension (Keith–Wagener[16]).*

Type of Operation	Effect on Blood Pressure	Severity of Hypertension			
		Grade 1	Grade 2	Grade 3	Grade 4
Supradiaphragmatic splanchnicectomy and dorsal ganglionectomy	Clinic		0 + 0	0 0 0 0	0 0 0
	Home		?0 + +	0 + + 0	- 0 -
	Case No.		5 8 9	2 4 7 11	1 3 6
Above with lumbar ganglionectomy	Clinic		+	0 0 +	0 0
	Home		++	+ + +	- -
	Case No.		8	4 7 11	1 6
Transdiaphragmatic lumbodorsal splanchnicectomy (Smithwick)	Clinic		+	+ +	
	Home		+	+ +	
	Case No.		13	10 12	

persistence of the third, fourth and fifth dorsal ganglions. Table 2 shows that for the past four and a half years since completion of this extensive denervation, the blood pressure has been somewhat lower, both in the clinic and the home, but nowhere near normal. Further details of this unusual case will be published elsewhere.

Transdiaphragmatic lumbodorsal splanchnicectomy. This was done in Cases 10, 12 and 13 by the Smithwick method. Case 10 had a left supradiaphragmatic splanchnicectomy and a right transdiaphragmatic operation. The patients have been followed postoperatively from one and a half to four and a half years. All had a marked drop in clinic levels close to normal, and a complete drop to normal in their home readings taken daily up to the present. Two of these cases were Group 3 and one was Group 2.

Additional Points Regarding Blood-Pressure Levels

In all cases in which a marked drop in blood pressure occurred, the fall in the clinic readings appeared immediately after operation. This rapid drop also occurred in the home readings in all cases but 1 (Case 9). In this patient, although there was some drop at the outset in the home readings, the full drop did not appear until three weeks after hospital discharge. The delay in drop seemed related to pain about the operative scars. In the unsuccessful cases, followed up to five years, there has been no evidence of any tendency toward lowering or elevation of the blood pressure. In the successful cases followed postoperatively as long as four and three quarter years, there has been no tendency of the blood pressure to rise in either home or clinic readings.

The correlation of postoperative effect with preoperative sedative test with Sodium Amytal has not been good. The patient in Case 7, on whom the total sympathectomy was performed, had a sedative drop in blood pressure to 96/66, but had little postoperative drop.

Table 4. *Effect of the Different Types of Sympathectomy on the Clinic and Home Levels of Blood Pressure.*

Type of Operation	No. of Cases	No. of Cases without Any Effect	No. of Cases with Good Effect on Clinic Levels	No. of Cases with Good Effect on Home Levels	No. of Cases with Normal Home Levels
Supradiaphragmatic splanchnicectomy	10	6	1	4	1
Above operation followed by infradiaphragmatic lumbar operation	6	4	1	2	1
Total sympathectomy	1	0	?1	?1	0
Transdiaphragmatic lumbodorsal splanchnicectomy and so forth	3	0	3	3	3
Total end results			5	9	5

We should like to emphasize the constant instability of the preoperative and postoperative blood pressure levels in our cases. Although the figures in Table 2 report the averages of thousands of home readings and hundreds of clinic readings, such average figures merely represent trends. The actual facts are illustrated in Figure 1. In this case, although the average clinic readings after operation are 156/100, in reality they varied from 180/112 to 128/80 and the home readings, which averaged 124/80, varied from 140/94 to 92/58. Similar fluctuation at higher levels is evident preoperatively in this chart. There were, therefore, swings in blood pressure postoperatively amounting to as much as 88 systolic and 54 diastolic. The lower

levels usually occurred after sitting and resting a few minutes or were found oftener in the morning. If our cases were reported on the basis of readings after resting only, it is evident that the selected level would be much lower. The higher clinic and home levels were usually related to environmental or emotional stimuli. Finally, in only 1 patient (Case 12) was the blood pressure often normal as soon as she entered the clinic and sat down. Even in this case, elevated readings were frequent when she first sat down, and dropping to or near normal after twenty minutes of rest.

Postoperative Complications

Pneumothorax due to inadvertent nicking of the pleura occurred in 3 cases, but had only a brief effect on complete rapid recovery from the operation. In Case 14, death resulted three days after the first stage of a supradiaphragmatic splanchnicectomy from an overwhelming streptococcal infection of the mediastinum. In Case 10, unusual spells, apparently unrelated to the operation, developed eight months after operation. These episodes consisted of generalized shaking either when the patient was asleep or, less often, awake, with twitching of the face and inability to talk. The diagnosis has been the subject of debate by several neurologists; hysteria and diencephalic epilepsy have been considered. Electroencephalograms were within normal range, and spells did not respond to Dilantin Sodium or to phenobarbital. The fact that they developed eight months after operation and that the blood pressure was lowered makes it unlikely that they were related. Reactions of this nature have not been reported in papers on sympathectomy. Sterility in men due to inability to empty the seminal vesicles may occur when the lumbar ganglions are removed. Our own data on this point are inadequate.

Postural Changes in Blood Pressure and Pulse

As noted by Roth[15] and Allen and Adson,[9] extensive denervation is associated with a marked drop in blood pressure and with tachycardia when the patient stands. This occurred in marked degree in Cases 11, 12 and 13, and in a mild degree in Cases 7, 8 and 10. In Case 7, however, a moderate postural effect on blood pressure was unassociated with any pulse rise; in fact, the pulse remained around 50. In all cases, the postural effect wore off in two or three months. It is of significance, however, that in patients whose home readings while seated at times have been as low as 76 systolic, there has been no tachycardia or faintness even four years after operation.

Changes in Heart Size and in Electrocardiograms

Table 1 shows that in only 4 of the 13 cases (Cases 5, 6, 11 and 12) was there any cardiac enlargement before operation, and this was of only slight degree. In Case 6, death from renal failure occurred. The remaining 3 patients are still living. In Case 5, the enlargement has remained unchanged over the five and a quarter years of postoperative observation. During this period, the electrocardiogram has become normal. In Cases 11 and 12, which originally showed slight enlargement, the heart has returned to normal size. Even in some of the cases showing normal heart size before operation, serial x-ray films have revealed postoperatively a definite decrease in size. There have been no cases with increase in heart size postoperatively.

Table 1 also shows which cases had preoperative and postoperative electrocardiographic abnormalities. In Cases 5 and 10 the T waves in Lead 1, inverted before operation, postoperatively became erect (Fig. 1). In Case 5, this was unassociated with any evidence of improvement of blood-pressure level in the clinic. In this case, home readings were available over only a brief period postoperatively; they were moderately lower than the clinic readings. In Case 12, the T waves in Lead 1, inverted to a depth of 7 mm. preoperatively, showed after operation inversion to a depth of 2 mm.; in Lead 2, the T waves, previously inverted, became erect. In both Cases 10 and 12, the changes were also associated with the development of deep Q waves in Lead 3. Case 10 had angina pectoris preoperatively on exertion; it has not recurred in the four and three-quarter years since operation. The ST intervals were depressed preoperatively in Leads 1 and 2 in Cases 5, 10 and 12, becoming normal after operation. In Cases 10 and 12, the clinical result was excellent. Left-axis deviation did not change more than slightly following operation, but any expected decrease was probably prevented by a gain in weight of twenty to thirty pounds in these two cases.

Changes in Eyegrounds

In 2 cases (Cases 1 and 3), there was edema of the optic disks. In Case 1, the edema disappeared postoperatively and did not recur in the two and a half years that elapsed before the patient's death. In Case 3, death occurred seven months after operation; unfortunately, the postoperative records of the fundi were lost. In the other cases, no definite change in any direction was noted after operation. The ophthalmologist was occasionally of the opinion that the vessels seemed wider after operation (Case 13). Arteriovenous nicking and changes in caliber have not improved. No evidence of progress is present in the patients who are still alive.

Changes in Renal Function and Albuminuria

The renal function was normal in all cases except 1 (Case 6). The latter showed preoperatively an elevated nonprotein nitrogen, with a fixed specific gravity of the urine and constant albuminuria. Of the 4 patients with constant albuminuria preoperatively (Cases 1, 3, 6 and 8), 2 (Cases 1 and 3) died of cerebral hemorrhage, 1 (Case 6) died of renal failure, and 1 (Case 8) is still living. The last patient has had a good operative result. Of 3 patients with inconstant albuminuria, all are living, and only 1 has had a strikingly successful result.

Intravenous pyelograms were normal in all but 2 cases (Cases 8 and 11). In Case 8, there was a history of pyelitis of pregnancy in 1929, with a kink of the right ureter straightened by operation. A pyelogram taken before the sympathectomies showed some blunting of the calyxes and slight enlargement of the pelvis of the right kidney. In Case 11, pyelograms and flat plates revealed a small right kidney with only slight function. It is striking that in both these cases with abnormal pyelograms, sympathectomy produced excellent results lasting up to the present. In Case 11, two years after sympathectomy, the right kidney was removed because of pain; it was found to be hypoplastic and atrophic, with chronic pyelitis. The blood pressure, normal before nephrectomy, remained unchanged after nephrectomy.

In general, no improvement was noted in the concentrating ability of our cases.

Symptoms before and after Operation

Table 1 indicates apparent symptomatic improvement in many cases. The chief symptom relieved was headache. This occurred even when there was no apparent improvement in blood pressure. Only 1 case (Case 7) was free of symptoms before and after operation. In 1 case (Case 2), symptoms were more marked after operation. The patients in Cases 8, 11, 12 and 13, almost wholly incapacitated before operation, have returned to full activity since operation. The other cases did not show any striking improvement in capacity for work.

Pressor Tests before and after Operation

We have carried out many pressor tests, using the breath-holding and ice-water methods. They have not been of any aid preoperatively and have added little to our findings postoperatively. Whether or not the operation is successful, the pressor test may show no change in range — the range meaning the amount of rise in blood pressure produced by the test. Some successful cases, however, may have a postoperative decrease in range. The top level to which the blood pressure rises after the pressor tests is called the ceiling; this is lower in benefited cases, but the success of operation is easily seen in the top clinic readings themselves. On the other hand, the pressor-test ceiling after the operation and occasionally preoperatively may be much less than the actual height at which the blood pressure is frequently found in the clinic without pressor-test stimulation. Case 12 is an example. Although this patient has become a so-called "hyporeactor" to the tests, — that is, a normal range, — the readings in the clinic varied markedly: at one visit she might have a top blood pressure of 196/104 and at another visit a top reading of 130/80. These top readings in the clinic were much higher than the ceilings obtained by the pressor tests. It is clear, therefore, that the pressor tests do not indicate the degree to which the blood pressure in some of these patients fluctuates. In other words, the range of blood pressure after pressor stimuli of breath-holding or cold is much less in such cases than the range produced by environmental stimuli.

Comment

Regardless of how skeptically and critically we have viewed less well-controlled studies of sympathectomy, our own data, viewed just as critically, have convinced us that no medical therapy has ever equaled the results obtained in 5 of our 13 cases. Certainly, the blood pressure can be lowered to a marked degree by potassium thiocyanate in large, somewhat toxic doses, and kept down for prolonged periods, but constant attention must be given to such patients, and their activity becomes greatly depressed by the marked effects of the drug.[17, 18] A patient can be ordered to bed and given large doses of sedatives with a similarly good effect on the blood pressure. It is clearly recognized that but little has been accomplished in the medical treatment of this disease. No one can point to a single well-controlled case in which medical treatment has brought the size of the heart, the electrocardiogram and the blood pressure back to normal. In our experience, sympathectomy has accomplished this in some cases with persistence of success for five years to the time of writing.

The optimism and enthusiasm rising out of our findings have been tempered by some provoking facts and queries. First, the operation, no matter how extensive, has not, even in our most successful case (Case 12), abolished rises in blood pressure produced by excitement. Almost one hundred thousand home readings of the blood pressure show rises associated with arguments, great

physical or emotional strain, markedly cold rooms and so forth. The average home existence of these patients does not often produce such rises, and the blood pressure may be as low as 80/64. In the clinic, the initial readings taken immediately after the patient enters the examining room are oftenest in the abnormal levels, even if on resting they drop to or close to normal. These marked variations of blood pressure indicate that large undenervated areas are left and that the hypertensive tendency still exists. The fluctuations in blood pressure in these patients resemble those seen in many young, early hypertensive patients who used to be dismissed with the diagnosis of emotional hypertension.

The promising picture presented in this paper must be viewed in the light of this question: Does the operation increase the life expectancy in the successful case? Our own data do not, of course, contribute an answer. Other reports are strikingly conflicting. Woods and Peet,[19] on the one hand, state that splanchnicectomy does increase life expectancy, and Flaxman[20] on the other, after comparing Woods and Peet's results with medically treated cases, concludes that there is little difference in mortality between the two groups. Even if the latter theory proves to be correct, results like those in Cases 10, 11, 12 and 13 justify the operation merely on the ground that it makes possible for the patient such long periods of normal activity and well-being.

We must also take cognizance of the argument raised by Volini and Flaxman[21]: namely, that hypertensive patients often have a drop in blood pressure after any major operation. This is reasonable if one remembers that great inactivity and some asthenia after major operations do cause a lowering of the blood pressure. The present study, however, clearly indicates that this is not the reason for the drop in blood pressure in our cases. First, the drops in blood pressure were not transitory, but have persisted up to five years. Secondly, in Cases 4, 11 and 12, intervals of months elapsed between stages, and the precipitous drop in blood pressure did not occur after the first stages while the patients were up and about convalescing. Finally, there is evidence that extensive sympathectomy carried out in patients with normal blood pressure has practically no effect on the readings, even in the upright position.[15] In this sense, the effect of sympathectomy on the blood pressure of essential arterial hypertension is a specific one and not comparable to the effect of transitory asthenia and inactivity following operations in general.

Another disturbing fact is that 5 of our 13 cases failed to respond successfully. Since our patients were operated on by a surgeon highly skilled in sympathetic-nerve surgery, we are certain that the amount of sympathetic resection planned preoperatively was carried out. This leaves, therefore, two explanations of failure: first, the cases with extremely severe forms of the disease did not respond, or secondly, the operation was not sufficiently extensive. Certainly, the newer operation — transdiaphragmatic splanchnicectomy — has had a more constant degree of success. On the other hand, the slight response to an almost total sympathectomy in a Grade 3 hypertensive patient indicates that there are other as yet undiscovered reasons for failure.

So far as the failures reported in the literature are concerned, our studies indicate an additional important reason for some of the apparently poor results. We believe that, as in Cases 4, 7, 8 and 9, some of the cases reported in the literature have had a much better result than the clinic readings of the blood pressure indicate. We feel certain that, as in our own cases just cited, there are many cases in which the home blood-pressure readings have been lowered greatly since operation, although the clinic readings have been lowered little or not at all. This is a probable explanation for the change of the electrocardiogram to normal in Case 5. It seems also a likely explanation for the report of Bordley et al.[22] that in one of their cases there was a decrease in the size of the heart, the electrocardiogram lost its left-axis deviation for two years, and there was no improvement of the blood pressure after operation. It may also explain why many cases have improved symptomatically without any apparent change in blood pressure.

Several more questions will inevitably be raised. First, what is the value of the home blood-pressure method? As stated in previous papers, we believe that it is invaluable for the true interpretation of any therapy in hypertension. In no cases have we seen any psychic harm from the use of the method. A second question that may be raised is, If the patients who have normal blood-pressure readings at home also have rises on excitement, what do the normal home readings really represent? We think that the home readings represent the usual level of blood pressure during the patient's normal life at home. Otherwise, we should have found hundreds of high home readings among the thousands taken in a given case if the levels were raised by merely slight happenings at home. The clinic or office high readings, therefore, represent the excitement associated with a visit to the doctor. It is provocative to note and emphasize that this excitement may produce after operation a rise in blood pressure much greater than that produced by the pressor tests.

The question of the effectiveness of surgery in relieving symptoms must be considered separately, since so much of the subjective factor enters into the picture. The evaluation of symptom relief is most difficult. We[2] have already shown that any strong form of suggestion treatment is markedly effective in relieving symptoms. This should be kept in mind in cases where relief of symptoms has occurred in the absence of any demonstrable effect on the levels of blood pressure. We disagree strongly with the statement that the operation is justified merely for the relief of distressing symptoms, even if the good results last only several months, and that the criteria for operation are incapacitating symptoms.

We now believe that the criteria for operation are severe or progressive disease in which there is no renal or cardiac failure, and the development of any of the following: cardiac enlargement, electrocardiographic evidence of left-ventricular strain, inconstant or constant albuminuria and marked changes in the ocular fundi. The age factor is a matter not yet settled; it seems to us that as time goes on, one must seriously consider those people over fifty-five years of age who now receive no attention. Chronic unilateral renal disease is not a contraindication (Cases 8 and 11). Time may prove the same to be true for bilateral renal disease.

Three final points are as follows. The preoperative and postoperative evaluation of such cases should be the primary concern of the internist. The decision to operate should rest on the opinions of the internist and surgeon and the patient as well. In suggesting surgery to such patients, the experimental nature and uncertainty of success should be made clear. Finally, the operation should be performed only by surgeons who are properly trained in this field.

Summary and Conclusions

There have been presented a small series of patients with essential hypertension who have undergone a variety of sympathetic denervations and who have had the advantage of unusually detailed controlled study. This type of controlled study with sympathectomy has not been secured or reported before. The controls consisted of special clinic study of the blood pressure, together with home blood-pressure determinations by the patients themselves.

The data so gathered lead inevitably to the conclusion that sympathectomy, regardless of its rationale, is the first therapy of essential hypertension that has been shown to produce in some cases a marked, prolonged, nontoxic lowering of the blood pressure. With this improvement in blood pressure, the heart may gradually decrease in size, the electrocardiogram return to normal, the symptoms disappear, and the incapacity be replaced by completely normal activity lasting at least as long as five years. Angina pectoris may disappear. Successful sympathectomy did not result in constantly normal blood-pressure levels in any case.

Our study does not completely clarify the reasons for failure but does offer some explanations. First, regardless of the extent of sympathectomy, Grade 4 patients did not respond. Secondly, success in general was more constant in those patients subjected to extensive denervation. The transdiaphragmatic type of splanchnicectomy with dorsolumbar ganglionectomy was the most effective type of operation. Finally, some failures are only apparently so when judged by the standard clinic readings of the blood pressure, whereas the home blood-pressure method reveals real improvement.

Therapy by sympathectomy should be considered in patients with essential hypertension in whom progressive elevation of the blood pressure is found after long and careful study or in whom any evidence of beginning vascular damage is demonstrated. Proper control figures of blood-pressure levels and variations should be secured, preferably in the ambulatory state. Brief periods of preoperative hospitalization do not afford proper data with which to compare postoperative results, no matter how many intricate or detailed studies are carried out during such periods. In a disease that has usually existed for some years, there is only rarely an excuse for brief preoperative studies or emergency decisions. Such studies and decisions are the primary concern of the internist.

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SOCIOECONOMIC ASPECTS OF DISEASE*

A Community Study of Pulmonary Tuberculosis in Selectees

MAJOR ROBERT W. HYDE, M.C., A.U.S.,† AND DAVID ZACKS, M.D.‡
WITH THE ASSISTANCE OF SERGEANT LOWELL V. KINGSLEY, A.U.S.

BOSTON

ALTHOUGH it has long been recognized that the incidence of pulmonary tuberculosis is especially high in crowded slums, and that certain races apparently have greater susceptibility than others to this disease, the exact effect of these factors has never been properly weighed and differentiated. As our examination of selectees before induction into the armed forces includes routine chest roentgenograms, an unparalleled opportunity has been offered for studying the incidence of pulmonary tuberculosis in men of military age coming from communities of different types. The purpose of this study is to correlate the prevalence of pulmonary tuberculosis in selectees with the factors of the socioeconomic level, population density, nationality and industries of the communities from which they came.

One of the best determinations of the relation of tuberculosis to economic level was that of the National Health Survey,[1] which showed that the rate of disability from tuberculosis is nine times as high for those on welfare as that for persons in the upper income group of $3000 per year and over, and almost four times as high for those with annual incomes of less than $1000 as for those with incomes of $3000 and over. Hart and Wright[2] in their studies in England, in addition to pointing out the similarity between the curves of pulmonary tuberculosis and of real earnings, noted the effect of differences in average closeness of personal contact between the inhabitants in one county borough and those in another. Other studies of the relation of tuberculosis to population density consist largely of the comparison of urban and rural rates. Parkhurst[3] in 1933 found the total rural rate to be 15 per cent lower than the urban rate, and Sydenstricker[4] during the period of 1900–1915 found the urban rate maintained at double the rural rate. Whitney[5] reported that the death rate from tuberculosis is more than twice as high in laboring classes and factory and mill workers as in business and professional people and farmers. Dauer[6] states that numerous reports have demonstrated that immigrants from certain countries to the United States have higher tuberculosis death rates than do the offspring of native-born parents. The Irish have had especially high rates, whereas the Italians, Russians and Jews have had relatively low rates.

No paper has appeared that differentiates the effects of low economic status and crowded housing. Although it is obvious that these two factors are often found together, their relation is not constant, and a differentiation of them is important in the establishment of mass preventive methods. In this paper an attempt will be made to differentiate the effect of population density and that of the socioeconomic level.

Although it has been stated that the high incidence of tuberculosis in the foreign born and their children and in certain races may have been influenced by their low economic status and the crowded housing of immigrant communities, it has not been shown that the latter are not the prime causative factors rather than racial susceptibility, to which the high incidence was attributed. Our consideration of the relation of economic status and population density to the prevalence of tuberculosis in certain nationalities is far from complete, but it does suggest a method for

*From Headquarters, Boston Armed Forces Induction District.
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†Medical director, Medical Section, Headquarters, Boston Armed Forces Induction District.

‡Chief of clinics, Tuberculosis Division, Massachusetts Department of Public Health.

isolating the various factors contributory to the incidence of tuberculosis.

At this time it is possible to review the findings for almost the entire period of Induction Board examinations from December, 1940, until early in 1943. Of the selectees who received chest roentgenograms at the Boston Armed Forces Induction Station during this long period, 0.9 per cent were found to have pulmonary tuberculosis. Sixty-six per cent of these did not know that they had the disease. Of the cases that it has been possible to follow, 60 per cent have shown pulmonary tuberculosis in an active stage.

Method of Study

Every selectee as a part of his examination has a routine chest photoroentgenogram at the Induction Station. Only the cases classified as pulmonary tuberculosis, reinfection type, are considered here. The diagnosis is made by an accredited radiologist on x-ray evidence, in most cases on the basis of four-by-five-inch stereoscopic photoroentgenograms, except occasionally when the radiologist desires single or stereoscopic fourteen-by-seventeen-inch films for verification. Rarely has this been found necessary, and then only in cases in which there were lesions of minimal extent of doubtful stability or in which measurement of the extent was necessary. Occasionally, the clinical history was inquired into, and this assisted in the diagnosis of doubtful cases. Before cases were classified as pulmonary tuberculosis, the films were reviewed by one of us (D. Z.). Tuberculosis suspects were not included as cases unless they were later proved to be tuberculous.

The men examined during most of the period were selectees between the ages of twenty-one and thirty-eight, some in the eighteen to twenty-one and thirty-eight to forty-five age groups were examined during part of the period. Because of its youth, the former age group is not presented as representative of the population in general, but it does form an excellent cross section of the male population of draft age without dependents, not engaged in essential industry, and not possessing obvious disqualifying defects evident on inspection by local-board examiners. Two groups not submitted as selectees and hence not included are those men who passed the physical examination for enlistment as volunteers in the armed forces and did not have tuberculosis, and those undergoing sanatorium treatment for tuberculosis, or, in rare cases, rejected by local boards because of proved tuberculosis. These two groups, one with, and the other without tuberculosis, tend to balance each other.

The source of the registrants was the eastern segment of Massachusetts at no point more distant than thirty miles from the coast line. The diversity of population represented was exceptional, ranging from high population densities, at their greatest in Boston proper and including four other cities of over 100,000 population and fourteen with more than 25,000, to such low densities as are represented in more than fifty towns and villages with a population of less than 2000. Industries of all types are found in the cities and large towns. Many semirural areas where the chief occupations are farming and fishing are represented. Many diversified nationalities are present, with the foreign population of Irish, Italian, Jewish and many mixed foreign groups concentrated especially in the urban areas, and with other communities still of almost purely English stock, now in the sixth and seventh generations in this country.

A social study was made of the area with the use of such available statistics as Lambie's *Experiments in Methods of Municipal Analysis*[7] and *Social Statistics*[8] of the Boston Council of Social Agencies, which together give detailed information on population densities, tax rates, welfare rates, industries, wages and a variety of other factors influencing the economy of the area. Surveys of the communities made by interrogation of many persons from each of them gave an evaluation of the utilization by the subject of the social and economic assets of his community and a subjective evaluation of the statistical data on the community. From these data a classification of each community was made covering the following factors: socioeconomic level (desirability), density of population per square mile, dominant nationality, and dominant occupations and industries.

The principle of our assessment of socioeconomic level of the community was based on Lynd's *Middletown*,[9] wherein the social structure of an American community is intensively studied. The following factors were evaluated to obtain an index of socioeconomic level: medical care, educational facilities, density of housing, social class, recreational facilities, public works and welfare. These were chosen because, except for welfare, they represent those factors in a community that either influence or characterize its socioeconomic level. Welfare was used because it was the most objective figure available of economic level. This method of measuring community socioeconomic levels is considered superior to others because it is more universally applicable, is obtainable by a comparatively easy survey, and should be more consistently correct than an evaluation of any single factor such as basic wage, a figure that is

both difficult to obtain in certain areas and invalid at this time because of such special circumstances as high wartime wages.

The local board was used throughout as the community unit, and it fortunately is a satisfactory one, being comparable to a city ward, a large town or several adjacent small towns.

All communities were rated according to the above socioeconomic factors and placed in one of six groupings according to their socioeconomic level, ranging from A, the finest communities, to F, the slum areas. The tuberculosis rate on examination was found for each community and the total rate for the group was calculated.

In the separate consideration of correlation of tuberculosis with community welfare rates, the rates of 1936 to 1939 were used because they were considered more representative than any rates of today would be. All the communities were divided into four groups according to the welfare rates given by Lambie; namely, less than twenty, twenty to twenty-nine, thirty to thirty-nine and forty dollars or more per capita. Tuberculosis rates in these groups were calculated and compared.

Population density based on the number of inhabitants per square mile was found for each community sending selectees to this station. Communities were placed in seven groups according to population density, ranging from less than 500 to over 20,000 per square mile. In this way a complete study was made possible of the relation of tuberculosis incidence to population density. As the desirability rating previously described for every community was known, it was possible by considering the rating of any one density group to see what extent desirability influenced tuberculosis incidence in different population densities.

Because of the mixed nationalities that made up most of the communities, it was possible to consider only a small part of them in comparing various nationalities; hence, only those communities with a dominant nationality were grouped by nationality. The tuberculosis incidences in selectees from these groups were compared. Here the factors of the socioeconomic level and population density can be evaluated to see whether or not they explain the difference in incidence found.

A like consideration was made of those communities with a dominant industry, in an effort to show to what extent socioeconomic factors are related to the differences in the incidences of tuberculosis found in different industries.

All the communities studied were ranked according to their tuberculosis incidence. Seventeen communities were found to have especially high and seventeen especially low rates for tuberculosis. The characteristics of the seventeen communities with the highest rates were compared with those of the seventeen with the lowest rates.

Results

Tuberculosis Rate and Community Desirability

The correlation of tuberculosis incidence in selectees with the desirability rates of the communities from which they came is shown in Figure 1.

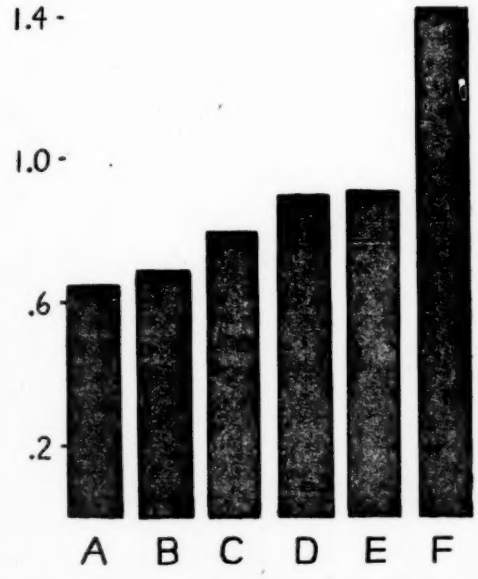

Figure 1. *Incidence of Pulmonary Tuberculosis at Different Levels of Community Desirability, from* A, *the Best, to* F, *the Poorest.*

Here the incidence of tuberculosis in selectees increased from 0.7 per cent in the best (A) communities to 1.4 per cent in the poorest (F). This doubling of the incidence of tuberculosis tends to confirm the findings of the National Health Survey[1] and the study of Hart and Wright[2] in England on the relation of tuberculosis to income. Their studies, however, were on an individual basis, correlating tuberculosis incidence with income, whereas this study rests on a community basis wherein a much poorer correlation would be expected.

To see if the same correlation was found with mortality as that with morbidity, the death rates for the years 1937–1941 for the same communities were compared. As good a correlation was shown as that for incidence, with the death rate ascending from 24 per 100,000 population in the most desirable (A) communities to 60 per 100,000 in the poorest (F).

The importance of this relation of pulmonary tuberculosis to socioeconomic level can in no way be minimized, especially in view of the fact that without doubt the public-health attack on tuber-

culosis has not been neglected in those communities with the lowest socioeconomic level. For this reason it cannot be considered, as it might be in certain other diseases, simply as indicative of medical neglect, but must be associated more with low standards of living found in the undesirable areas. The fact that there was an incidence of pulmonary tuberculosis of 0.7 per cent in the finest communities is also notable, for such a high incidence here demonstrates that even the best environment is far from good enough, and that efforts must be directed not only at the community of low socioeconomic level but also at the entire range of society. Of the twelve communities in the highest desirability bracket, only one presented an outstandingly high incidence of tuberculosis. Of the eight communities with the lowest desirability rating, only one presented a low incidence.

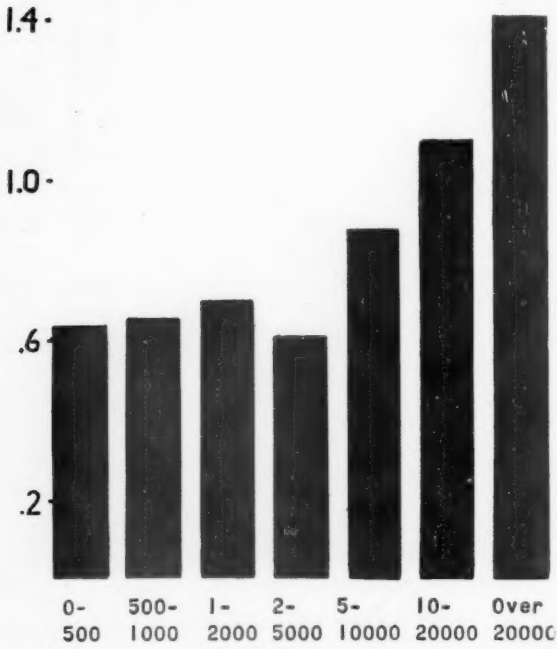

FIGURE 2. *Incidence of Pulmonary Tuberculosis in Different Population Densities, Classified according to People per Square Mile.*

Tuberculosis Rate and Population Density

As shown in Figure 2, in which all communities are grouped under like population densities, the four least dense groupings, those with densities of less than 5000 per square mile, presented similar averages of tuberculosis incidence. This suggests that insofar as can be determined from this study, population densities up to 5000 per square mile do not exert an unfavorable influence on the rate of pulmonary tuberculosis. Of the forty-six communities with populations less than 5000 per square mile, only five presented rates for pulmonary tuberculosis higher than the average. Communities of a great variety of types and qualities are represented among these forty-six communities, and the fact that only five had tuberculosis rates above the average indicates the extent to which low population density is associated with low tuberculosis incidence.

From population densities of 5000 per square mile up to those of over 20,000 per square mile, there was an ascending rate of pulmonary tuberculosis from 0.6 to 1.4 per cent. All but two of the fourteen communities with population density over 20,000 per square mile presented a tuberculosis rate above the average. This serves to illustrate what is considered to be the effect of crowded housing in a contagious disease such as tuberculosis, where close contact with active cases is conducive to its spread. These findings are in agreement with the work of Hart and Wright,[2] Parkhurst[3] and Sydenstricker.[4]

A similar study of mortality made by comparing the tuberculosis death rates for five years in the various population densities yielded similar results. The death rates rose from 28 per 100,000 population in densities of under 2000 to 54 per 100,000 in those of over 20,000 per square mile.

It is to be expected that the relation of tuberculosis to crowded living would be even more strongly emphasized if a study could be added of the number of people per dwelling room as well as population per square mile, for even in the density groups of less than 5000 per square mile, many areas exist where a small crowded urban district is balanced by a sparsely populated surrounding semirural area, producing a low population-density figure for the community, not truly representative of the situation. Even in entirely rural areas, people of low economic level are often crowded together into too few rooms.

It is apparent that the densely populated areas also include more poor tenement districts of low socioeconomic level. Hence, without investigation it is impossible to say that the increase in tuberculosis in the high-population densities is not due so much to their low economic level as to crowding per se.

It is of the greatest importance to differentiate the effect of low socioeconomic level from that of population density. The average desirability level of those communities in the 2000 to 5000 population-density group proved to be C, whereas the desirability level in the highest density group proved to be E. By referring to the previously charted relation of tuberculosis to desirability, the rates to be expected for these two groups on the basis of

desirability alone are shown to be 0.8 and 0.9 per cent, respectively. But since the rates that were found on the basis of population density were 0.6 and 1.4 per cent, it can be seen that the factor of population density was largely responsible for the increased prevalence in the crowded areas. Hence, increased population density above a certain level produces more tuberculosis even independently of socioeconomic level.

To distinguish further between the effect of density and that of desirability, the tuberculosis rates for those communities of the same desirability level were plotted against the various population densities of the communities included in each group. Only desirability groups C and D were used, for not enough communities were represented in any one other group to be broken down into a satisfactory variety of population densities. A good correlation was shown of pulmonary tuberculosis rates with population density in communities classified in the same socioeconomic level. Hence, the tuberculosis rates ascend in increased population densities, even independently of the socioeconomic level of the communities considered. On the other hand, the correlation between pulmonary tuberculosis and community desirability in the same population density is poor, but this may be due to the small number of communities in each population-density group rather than to the weakness of the influence of socioeconomic level independent of density that would be suggested.

Although this attempt to distinguish between population density and socioeconomic level is difficult, and the extent of this study is not sufficient for the final evaluation of such an intricate relation, it does suggest strongly that population density in itself is perhaps the most important consideration in the incidence of pulmonary tuberculosis.

Tuberculosis Rate and Community Welfare Rate

Welfare rates based on the period of 1936-1939, as recorded by Lambie,[7] were used because they were judged to be more representative of the community than would any rate based on the present time. No uniform relation existed throughout the four divisions of welfare rates, but the communities with the highest welfare rates had 1.0 per cent tuberculosis against an average of 0.8 per cent in the communities with lower welfare rates. This is hardly worthy of note, but since it is based on a single purely objective factor, it is considered for the sake of completeness.

Tuberculosis Rate and Community Nationality

Only those communities where a dominant nationality was considered as contributory to community homogeneity were included in this study, approximately 50 per cent or more being of the same general nationality. Nationality was determined by the birthplace of the subject or his parents in a foreign country. It must be noted that this is not a study of incidence of tuberculosis in persons of different nationalities but in communities of the same nationality.

In each group of communities of the same nationality there was a decided variation between its members, suggesting that nationality does not influence tuberculosis incidence to a sufficient degree to overcome all the other factors in the community that affect this rate. Furthermore, the desirability rating and population density of the community served to explain for the most part any difference in nationality that did exist.

It may be mentioned for completeness, however, that the average percentages of pulmonary tuberculosis for each community group by nationality were as follows: Irish, 1.3 per cent; Jewish, 1.0 per cent; Italian, 0.9 per cent; and Portuguese, 0.6 per cent. The crowded housing and low socioeconomic level of the Irish communities were the likely causative factors, since a consideration of these communities on the basis of a desirability rating of F and a population density greater than 20,000 alone would lead to the same incidence of tuberculosis irrespective of nationality.

The fact that Italian communities all happened to be of very different population density offers an opportunity for comparing incidence of tuberculosis in communities of the same nationality but with different population densities (Table 1).

TABLE 1. *Tuberculosis Incidences in Four Italian Communities Compared to Their Population Densities.*

COMMUNITY	POPULATION DENSITY	NO. OF INDUCTEES EXAMINED	INDUCTEES WITH PULMONARY TUBERCULOSIS
	per sq. mi.		%
C 51	60,000	2,408	1.2
C 21	25,000	2,779	0.9
C 89	7,000	990	0.7
C 201	1,500	743	0.4

From the table it is evident that whatever influence nationality may have on tuberculosis incidence is eclipsed by other factors—in this case, population density.

Tuberculosis Rate and Community Occupation

A consideration similar to that made of nationalities was made of pulmonary tuberculosis by community occupation, considering only those communities wherein a dominant type of occupation was represented. The average rates for communities grouped by each occupation were

as follows: urban office-workers (chiefly employees) 1.1 per cent; fishing, 1.0 per cent; leather and shoe manufacturing, 0.8 per cent; textile manufacturing, 0.6 per cent; suburban office-workers (chiefly employers), 0.6 per cent and farming, 0.4 per cent. There was such a variation in tuberculosis incidence between different communities within the same occupational group that it seems apparent that the community's major occupation itself has little or nothing to do with tuberculosis incidence, insofar as those occupations here considered are concerned. The only occupational group with uniform incidence throughout the several communities constituting the group was that of farming, with the low rate of 0.4 per cent. This is consistent with, although in excess of, the low incidence previously demonstrated in the low population densities, and hence can be partly attributed to decreased contact from uncrowded living. One might go farther and attribute it, in part, to outdoor work and freedom from the stress of urban life.

Although the textile (0.6 per cent) and shoe-manufacturing communities (0.8 per cent) do not form homogeneous groups, the fact that their average rates for tuberculosis are below the general average is worthy of note, since some authors have considered that industrial communities have a very high tuberculosis rate.

Comparison of Communities with Highest and Lowest Tuberculosis Rates

The one hundred and thirteen communities sending registrants to this induction station were listed in rank order according to the incidence of pulmonary tuberculosis found in selectees from each. The range covered was from the high rate of 2.4 per cent found in the most crowded area under consideration, composed of Italian and a mixed foreign population including Chinese, to 0.05 per cent in a small jewelry-manufacturing city with an outlying area devoted to farming, composed mainly of an old-line native population with a small mixed foreign element.

A comparison was made of the seventeen communities with the highest tuberculosis incidence with the seventeen with the lowest incidence to check the previous findings and if possible to furnish information on the socioeconomic aspects of pulmonary tuberculosis. Of the seventeen communities with the highest tuberculosis rates, eleven were of high population density with a low socioeconomic level. Of the seventeen communities with the lowest tuberculosis rates, twelve were of low population density with moderate or high desirability.

In a comparison of nationalities, eleven of the seventeen communities with a high incidence of tuberculosis contained a major element of population of foreign birth or first-generation American born, whereas the same foreign element was predominant in only six of the seventeen communities with the lowest incidence of tuberculosis. No community with the lowest desirability rating and only one with high population density was represented among the communities with a low tuberculosis rate.

A comparison of the size of the cities in the two groups is interesting, for none of the communities with a low incidence of tuberculosis were in Boston, whereas thirteen of the seventeen communities with the highest incidence were in that city.

Summary

Of the selectees examined at the Boston Armed Forces Induction Station from December, 1940, to early in 1943, 0.9 per cent were found by x-ray examination to have pulmonary tuberculosis.

There was progressively more pulmonary tuberculosis in selectees from communities of low socioeconomic level than in those from the better communities, with 1.4 per cent in the poorest and 0.7 per cent in the best communities.

The incidence of pulmonary tuberculosis was uninfluenced by variations in population densities under 5000 per square mile, but in greater densities it increased progressively from 0.6 per cent at population densities of 5000 to 1.4 per cent at population densities of over 20,000 per square mile.

The association of a higher rate of tuberculosis with the higher densities of population appears to be due to population density per se and not merely to the lower socioeconomic level of the congested areas. There is some evidence that the effect of socioeconomic level is secondary to population density.

The correlation of tuberculosis death rates of five years, 1937–1941, with both community socioeconomic level and population density gave results similar to those of the correlation of tuberculosis incidence, showing the close relation of morbidity and mortality studies of this disease.

Of communities with a dominant nationality, the Irish communities presented the highest tuberculosis rates, with an average of 1.3 per cent. This incidence was no greater than would be expected on the basis of their high population density and low desirability irrespective of nationality. The tuberculosis rates in Italian communities varied with population density; hence, nationality was not shown to be a factor in the incidence of pulmonary tuberculosis.

No specific relation between community occupation and tuberculosis could be found. Indus-

trial communities presented average and below-average rates. Farming communities had the least tuberculosis — an incidence of 0.4 per cent.

This study of tuberculosis on a community socioeconomic basis points to a sufficiently close relation between tuberculosis incidence and both population density and socioeconomic level to demonstrate the need for future extensive investigation of these factors.

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MEDICAL PROGRESS

THE TREATMENT OF THERMAL BURNS

I. General Outline

NATIONAL RESEARCH COUNCIL*

WASHINGTON, D. C.

THE treatment of thermal burns is one of the most acute problems of war surgery; it has been the subject of many publications, and many discussions have been devoted to it. The abundance of details and the frequently contradictory character of the evidence, however, sometimes make it difficult to see the main trends of the development. For this reason, the present general outline sketched on a historical background has been prepared. It goes back to the introduction of the tannic acid treatment by Davidson in 1925, without, however, in any way attempting to be exhaustive or to provide a comprehensive bibliography of the subject. The existing monographs by Pack and Davis, Hilgenfeldt, and Harkins, as well as Volume V of *Military Surgical Manuals*, entitled *Burns, Shock, Wound Healing and Vascular Injuries*, which has just been published, make such an undertaking unnecessary. It should be noted, moreover, that in preparing this outline abstracts published in the *Bulletin of War Medicine* and in *War Medicine* were often relied on.

Prewar Period

For many centuries the chief aim in the treatment of burns was the promotion of good healing. Consciously or unconsciously, this included the prevention of dangerous sepsis. It was noticed, moreover, that the blood of patients suffering from burns often showed increased viscosity, and the infusion of saline solutions had become popular before World War I.[1] But on the whole, the treatment was local and very often purely empirical. From the time of Hippocrates, a host of drugs has been applied, and the so-called "Hippocratic Collection" itself lists several prescriptions, one of them employing oak root (*Quercus ilex*), which supposedly contains tannic acid and may have had an astringent or even tanning effect.[2]

In the course of World War I and its aftermath, increasing attention was paid to the phenomenon of shock. Burns presented themselves more clearly as a thermal trauma that was often followed by shock, was easily open to infection, and might lead to disfiguring scars and contractures. The pathology and treatment of burns, therefore, became special problems in such wider surgical provinces as shock, wound infection and plastic surgery.

These various aspects are reflected in the classification of burns. The classic grouping since Dupuytren[3] was a histologic one — that is, according to the depth of skin involved.[1] His distinction of six degrees proved, however, less practical than a classification into three degrees. The latter might be based on the clinical aspects — that is, erythema, blistering and charring[3] — or on a direct appraisal of the layers destroyed — that is, superficial destruction, deep destruction and

The articles in the medical-progress series of 1941 have been published in book form (*Medical Progress Annual.* Volume III. 678 pp. Springfield, Illinois: Charles C Thomas. 1942. $5.00).

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complete destruction of skin.[3] Apart from expressing the severity of the burn, it also made it possible to distinguish between burns where the skin would regenerate and those where skin grafting was required. Later on this point of view was even more strongly emphasized by Hall, Cade and McIndoe who proposed a distinction between "partial skin loss" (first and second degrees) and "complete skin loss" (third degree).[3]

Since, however, the severity of a burn and the extent of the subsequent shock were even more dependent on the extent of the burned area, an estimate of the latter was of prime importance. Such an estimate was provided by the Berkow[4] method in 1924. The general attention this scheme has received and its usefulness for the estimate of plasma protein loss and plasma transfusion required,[5] are in themselves a testimony to the increasing emphasis laid on shock.

Likewise, it was the problem of shock that in 1925 led Davidson[6] to the introduction of the tannic acid treatment of burns. Reviewing the various explanations of the clinical picture commonly described by such a term as "shock" or "exhaustion," Davidson concluded that the constitutional reaction is probably due to absorption of some toxic substance or substances from the burned area. Such absorption, he thought, might be prevented, and he chose tannic acid to precipitate the poisonous materials in burned tissue. It is interesting to note that Davidson was also influenced by the work of Bardeen,[7] who in 1898 had observed damage of the liver and other organs following burns.

Although the precipitation of toxic substances was the key point for Davidson, he believed that the treatment had several additional advantages. He emphasized the analgesic effect, the minimal trauma and general comfort of the patient, the prevention of loss of body fluid, the limitation of secondary infection, the less marked scar-tissue formation and the scaffold offered for the growth of young epithelial cells.

The fact that Davidson considered the prevention of loss of body fluid forms a link between his work and that of Underhill.[8] While engaged in the study of poisoning by war gases, particularly phosgene, during the last war, Underhill paid increasing attention to changes in blood concentration. Extending his studies to the problem of burns, he was later on followed by Blalock and others.[1, 9] These workers elaborated a theory of burn shock as a result of injury to the capillaries, anhydremia, fluid shift and anoxia. It was, moreover, shown that the fluid shifting toward the burned area had the character of blood plasma, and that the circulating blood was relatively rich in blood corpuscles but poor in plasma proteins. These results had in the main been arrived at before the outbreak of the present war, but many points are still disputed. The process as it is now usually pictured has, however, been summed up as follows: "The local thermal trauma produces a local capillary injury with regional loss of plasma-like fluid both into the burned tissues and from the skin by means of 'weeping.' Later there may be generalized infiltration of plasma into tissues remote from the region of the burn. The quantitative aspect of the loss of plasma is of especial significance; the loss may exceed several liters."[5]

Although this theory of shock differed widely from Davidson's ideas, it did not oppose the tannic acid treatment. It had become doubtful whether tannic acid acted by precipitating toxic agents, but as Blalock[10] stated in 1931, "It is entirely possible that such agencies as tannic acid and epinephrin exert their beneficial effects by preventing loss of fluid rather than by stopping the absorption of toxins."

An attack on the theory of toxemia and the use of tannic acid came from a different direction. Aldrich,[11] in 1933, denied the existence of nonbacterial toxemia in burns; in his opinion the toxemia was due to sepsis. His view ran parallel to the observation that in many cases where coagulation with tannic acid had been practiced, infection had developed underneath the eschar. Bancroft and Rogers,[12] who had remarked on the latter fact as early as 1928, had adopted — for certain cases, at least — the treatment with acriflavine. Aldrich employed gentian violet, the bactericidal and bacteriostatic properties of which had been made known by Churchman[13] in 1912, for the treatment of burns, claiming that it was particularly effective in combating *Streptococcus hemolyticus*. Subsequently, Aldrich[14] used triple dye — that is, a mixture of brilliant green and acriviolet (acriflavine and crystal violet). Brilliant green had been in use as an antiseptic for quite a number of years, and in a 1 per cent solution Koritkin-Nowikow had employed it for burns and scalds in 1934.[1]

Other criticisms voiced before the present war against the use (or sole use) of tannic acid may be mentioned. Bettman,[15] in treating an extensive burn of the arm of a five-month-old child, had observed a progressively increasing edema with subsequent pressure and impediment of the circulation that led to a sloughing of the hand. In order to obviate the slowness of tanning and the rigidity of the eschar by tannic acid, he preferred the tannic acid-silver nitrate method that he had proposed in 1935. Here again a much older thera-

peutic agent had been reintroduced in a new combination, silver nitrate having been used in burns as early as 1858 by Kalt.[1]

In Germany, Löhr, in 1934, introduced the cod-liver oil treatment of burns.[16] He pointed out that tannic acid did not prevent shock and sometimes led to infections under the scab. Cod-liver oil, which he used in the form of *Unguentolan*, — that is, mixed with other ointments, — prevented infections and helped the healing of the burns. Taylor in 1936 remarked that tannic acid hindered the growth of epithelium.[9]

Under this two-sided assault the existence of toxemia due to burns became questionable. In 1938, Wilson, MacGregor and Stewart[17] wrote: "The present trend of opinion seems to be towards Underhill's view that increased concentration of the blood is the main, even the sole, cause of symptoms in the stage of toxaemia; some support, however, is given to Aldrich's belief in the predominating influence of haemolytic streptococcus infection. An attitude of scepticism or reserve towards a specific burn toxin has become fashionable."

But Wilson and his co-workers thought that they could prove the existence of a separate stage of acute toxemia as distinguished from shock on the one hand and septic toxemia on the other. They differentiated five stages in the course of burns: initial shock (the first two hours after the burn); secondary shock (two or more hours after injury); acute toxemia (six to fifty hours after injury); septic toxemia (approximately from the fourth day on); and healing. The stage of acute toxemia, in their opinion, was marked not only by clinical symptoms but by liver damage as well. Although they used tannic acid, which has recently been found to have a toxic effect of its own, they believed that the liver lesion furnished the strongest indication of a nonbacterial toxin circulating during the first few days after a burn.

This outline of the possible course of a severe burn has become the basis for much subsequent discussion. As will be seen later, their evidence for the existence of nonbacterial toxemia has lost much of its strength, although the question has not yet been finally decided. At the time, however, it gave renewed impetus to the belief in a toxic agent.[18] Moreover, it vindicated the original rationale for the use of tannic acid, if indeed such a vindication was necessary. For in spite of the criticism by Aldrich and a few others, tannic acid, possibly in combination with silver nitrate or antiseptics, remained the local medication of choice for the hospital treatment of burns. Besides, chemotherapy in the form of sulfonamide drugs used orally or locally had come into use. Here, then, was a new, powerful remedy to obviate the danger of sepsis that tannic acid alone might not always prevent.

Period from Outbreak of War Until Pearl Harbor

At the outbreak of war, the treatment of burns was relatively uniform. In first-aid treatment, picric acid was given preference in Great Britain as well as in this country. *The Memorandum for the Guidance of Medical Officers and Other Personnel at First Aid Posts* of the British Emergency Medical Services,[19] issued in 1939, states: "No attempt should be made at cleaning these [burns]. They should simply be covered with a suitable dressing. The burn dressing (picric acid) should be moistened before application. Picric acid does not interfere with the efficiency of tannic acid dressing applied later. Morphia will probably be required." The American Red Cross *First Aid Textbook*[20] similarly placed picric acid first, and so did the War Department field manual, *Military Sanitation and First Aid*,[21] published in 1940, although in the two latter publications tannic acid was given an almost equal place. Due stress was placed on combating shock by keeping the patient warm and providing him with fluids.

In the hospital, treatment with tannic acid alone or in combination with silver nitrate or antiseptics predominated. An example is the procedure recommended by McClure,[18] of the Henry Ford Hospital, Detroit. Measures to control shock came first. The patient was given sedatives, heat externally, fluids (5 per cent dextrose and a physiologic solution of sodium chloride) and transfusions of blood plasma. The local treatment consisted in removing the clothing, superficial débridement and application of a 5 per cent freshly prepared solution of tannic acid with an atomizer or power spray. Collections of pus under the tan were liberated, skin grafting was employed early, and blood transfusions were given in late stages of secondary anemia. McClure emphasized the need for strict aseptic precautions during the surgical procedures, since the burned area should be regarded as a large open surgical wound.

This method represented one of the most advanced patterns of treatment, particularly as regards asepsis, which was too often neglected in routine practice. Other surgeons preferred silver nitrate in combination with the tannic acid or the addition of resorcinol. Still others painted the edges of the tan with antiseptics.[22] It must also be remembered that gentian violet and triple dye had their advocates, but on the whole, coagulation with tannic acid in one form or another was the treatment of choice.

Before entering on the changes brought about by the experience of the war, two points that

later on became important in the treatment of shock should be mentioned. Early in 1940, Elkinton, Wolff and Lee[23] showed that the restoration of lost plasma proteins depends on the time when capillary impermeability is restored and on the amount of protein needed. In their opinion, loss of plasma continues for thirty to forty hours, and during this time repeated small plasma transfusions will prevent hemoconcentration. After forty hours a large plasma transfusion is given to make up the plasma deficit. They also proposed a formula for calculating the deficit, and various other methods for calculation were suggested by other authors.[5] The work of Elkinton and his associates made it particularly clear that transfusions had to be given in the very early period after the injury. Estimates of the amount of plasma required, based on the extent of the burn, on hematocrit and hemoglobin readings and on calculations of the plasma deficit, assumed an important place in subsequent outlines of the treatment of burns.[5] The quest for plasma and serum substitutes, on the other hand, did not meet with unequivocal success.[24] Secondly, it was realized that the administration of saline solutions was dangerous since it tended to increase the edema[25] —unless vomiting had led to a serious loss of chlorides.[3]

In anticipating these points it can be shown that the general treatment of shock followed a gradual development. Although many theoretical points remain debatable, no completely new aspects have been introduced during the war,* as in the case of the local treatment.

The fall of France, the evacuation of Dunkirk and the subsequent battle of Britain changed the perspective as well as many details of the treatment of burns. The British soldiers returning from France, the personnel of the R.A.F. and the civilians bombed in the British Isles suffered heavily from burns. From the spring of 1940 until the spring of the following year, the British had to cope with new and unforeseen conditions. Large numbers of burned persons had to be treated at first-aid posts or under first-aid conditions, treatment on board ship also falling into this category.[28, 29] Often considerable time passed before patients were transferred to the hospitals, where facilities were overtaxed and work had to be performed under most difficult circumstances. Under the impact of the emergency, the need for certain adjustments made itself felt. Cohen,[30] who treated men evacuated from Dunkirk in a hospital of the Emergency Medical Service, remarked, "Many lessons were gathered, but one lesson stood out clearly from it all—the necessity for and the value of a prepared routine of treatment [in hospitals]." The demands on doctors, nurses and hospital facilities were so heavy that makeshift arrangements were quite inadequate. Again and again in following years, the need for co-operating teams, including experienced general surgeons, plastic surgeons and even pathologists, as well as the desirability of burn centers, has been stressed.[31, 32] Only recently, the disadvantages of lack of prepared routine were demonstrated when a fire broke out in a Knights of Columbus leave center in St. Johns, Newfoundland.[33] Seventy-seven patients had to be taken to various hospitals that, as can easily be understood, were not adequately prepared for such a disaster. As a result, many necessary materials were lacking and many different forms of treatment were employed by the staffs of the various hospitals.

Another lesson that was learned in Britain was the need for proper instruction of first-aid personnel. It was necessary to distinguish between those cases that might receive preliminary or definitive treatment by first-aiders and those that had to be transported to a hospital as soon as possible. This led to an increasing emphasis on a short, practical classification, as for instance into "minor" and "major" burns.[34] Regarding the latter class, it also led to restrictions in the local first-aid treatment, that many authorities kept to an absolute minimum, simply covering a severely burned part with clean towels, cloth or *tulle gras* or first powdering them with sulfanilamide.[34] Still others consented to more active measures, particularly if transport was delayed, as for instance in naval action.[32, 34] The instructions of Emergency Medical Services,[35] dated June, 1941, advise: "*Serious burns* requiring admission to hospital should be treated by the application of sterile vaseline on gauze or lint to cover the exposed portions of the burn. Provided the patient is shortly to be transferred to a nearby hospital, no attempt should be made to remove clothing in order to expose the entire burn area. Serious burns always require injections of morphine for pain, in full doses (⅓ to ½ gr. for adults)."

Although the points mentioned so far chiefly concerned organization and instruction for the treatment of burns, the very soundness of the prewar local treatment began to be questioned. To meet the danger of contractures under tannic acid treatment, the extremities, particularly the fingers, had been splinted[36] or extension apparatus used,[18] but such measures were not sufficient. The fact that a great many war burns had affected the face and hands led to an early recommendation to substitute saline packs or baths on

*Recent research has made the traditional therapy of shock by external heat questionable, and it has also detracted from the value of oxygen inhalations.[26, 27] These new aspects, however, have as yet hardly made an impact on the treatment of burns.

the so-called "critical areas." This recommendation did not, however, meet with general approval,[37] particularly since it was understood as a general rejection of the tannic acid treatment altogether. Whereas the majority of physicians followed the new directions and avoided tannic acid on the face and the hands, others defended the treatment and stated either that its condemnation was not at all justified or that there was not yet sufficient evidence for the rejection. A conference on the treatment of war wounds, organized by the War Wounds Committee of the British Medical Research Council on November 29, 1940, showed how vigorous was the defense.[38–41] Finally, there was a third group[42] that tended to avoid tannic acid altogether.

Reviewing briefly the discussion for and against tannic acid treatment, the following trend is apparent. Those defending it pointed to the decrease in the mortality rate following the introduction of tannic acid. They maintained that the saving of life held precedence over the saving of function.[43, 44] The opposition largely argued on the basis of the Hippocratic principle, *Nil nocere*. Saline baths and packs, which were so favorably received in Great Britain, owed some of their popularity to the advantages they offered to early skin grafting.[45] Most authorities agreed on the following point: burns that did not epithelialize promptly needed grafting, and sepsis was one of the major obstacles to the early performance of this operation. But among those who stressed the deleterious effects of sepsis were also advocates of triple-dye therapy,[32] which, as has been seen, had been devised for the prevention of infection.

Besides the use of saline baths, silver nitrate, triple dye, gentian violet and other drugs already mentioned, there emerged a host of different therapeutic procedures. The use of trypsin to clear up the burned surface was envisaged,[38] Euglamide[46] and the closed-plaster treatment[47] were recommended, and Bunyan,[48, 49] followed by other workers, suggested the envelope method with irrigations.* The latter method was recently illustrated in a popular American magazine,[51] after Biodyne ointment had also received publicity.[52] These are but a few items from a long list.[53] By the middle of 1941, the local treatment of burns had become so confused that even the reintroduction of the much-abused carron oil seemed possible, and anything might be good if, in addition, sulfonamide drugs were prescribed.[54, 55]

The local application of sulfonamide, which at the outbreak of the war appeared to have great promise, also had its ups and downs. Omitted by some[40] and cautiously used over small areas, usually in combination with coagulants, by others,[56] it was employed by still others as *the* local treatment. Best known among the latter methods was the one announced in August, 1941, by Pickrell,[57] who sprayed the burned area with 3 per cent sulfadiazine in 8 per cent triethanolamine. The Pickrell method was criticized by H. S. Allen and Koch,[58] who, however, conceded that sulfathiazole ointment, introduced by J. G. Allen, Owens and others[59] in May, 1942, might be useful in first aid. In Canada, Skinner and Waud[60] were working with plastic films of polyvinyl alcohol containing sulfonamide drugs. Among the other local applications of these drugs mentioned in the literature hydrated films containing 10 per cent sulfanilamide and buffer, with and without quantities of azochloramid,[61, 62] may be cited as one of the most recent proposals.

Period after Pearl Harbor

The disaster at Pearl Harbor on December 7, 1941, resulted in a great number of burns, and the treatment given shows some decisive differences as compared with the British procedure in 1940. Whereas in Great Britain shock had been mainly combated by keeping the patients warm and giving them large quantities of fluids orally, at Pearl Harbor, in addition, blood plasma, supplemented by glucose and saline solution, was used in most cases. The local medication too varied considerably; at the United States Naval Hospital, for instance, it included sulfanilamide powder, sulfanilamide in mineral oil spray, sulfathiazole suspension, gentian violet spray and boric acid wet dressings.[63] At the dispensary of the Naval Air Station, on the other hand, the treatment was divided between tannic acid and sulfonamides.[64]

But in spite of all the criticism and the many alternative remedies suggested, coagulation with tannic acid still predominated in the first half of 1942. In England, it is true, it had been removed from the schedule of first-aid posts by March, 1942 and dressings of soft paraffin ointment had been advised instead.[65] It had also generally been recognized by this time that tannic acid should not be used on critical areas. For the rest, the state of affairs is approximately characterized by the recommendations of the National Research Council formulated in January, 1942.[66] Regarding first-aid treatment it is here stated: "All burned surfaces except the face, hands and genitalia should be liberally coated with a water soluble jelly containing 10 per cent tannic acid and 5 per cent sulfadiazine. . . . Burns of the face, hands and gen-

*Kilner recently advocated the first-aid Bunyan bag, filled with sulfonamide.[50]

italia should be covered with a water-soluble emulsion containing 5 per cent of sulfadiazine." The definitive treatment of other areas envisaged tannic acid, 10 per cent, and silver nitrate, 10 per cent. Sulfadiazine was given orally as a routine measure. These recommendations of the National Research Council are echoed in the booklet of the Office of Civilian Defense[67] and represent opinions also found in the *Guides to Therapy* of the War Department[68] and in other publications of the time. *Treatment of Thermal Burns* issued by the National Research Council of Canada[3] on August 6, 1942, although much more detailed regarding the pathology as well as the treatment of burns, also makes recommendations that are in basic agreement with those of the American National Research Council. In spite of all criticisms, qualifications and alternatives suggested, tannic acid by the middle of last year had not been superseded by any other single medication.

The recommendations of the research councils of the United States and Canada mention a point that indicates the further development. For burns on the hands, they suggest a firm-pressure bandage. This was an early recognition of a method that was soon to have a much wider application. Impressed by the inconclusive search for a burn toxin, some American physicians proposed to regard a burn simply as a large, open wound.[69] From this principle they deduced a simple technic. The burned area had to be examined, cleansed, and covered under strictly aseptic safeguards. The covering had to be nonirritant and had to protect the surface and prevent loss of fluid. "A large pressure dressing similar to that applied over skin graft seems to be advantageous in that it helps to immobilize the part and minimize the loss of fluid into the tissues about the burn." From January 1, 1939, on, the mortality rate at the Cook County Hospital in Chicago was considerably reduced by thorough cleansing and a pressure dressing over vaseline gauze. This treatment, first detailed for burns of the hand,[70] became more widely known through a paper by Allen and Koch[58] concerning the treatment of patients with severe burns.

Discarding the existence of burn toxins, Allen and Koch still had to account for the liver damage in certain cases. They attributed it to the use of general anesthesia, the danger of which, particularly in patients suffering from shock, had also been pointed out by others.[3] But it was just the existence of liver necrosis, used as evidence for burn toxemia by Wilson, that led to a much more decisive argument against tannic acid than any advanced before. The studies by Wilson and his co-workers had been followed up by other observers. In April, 1941, Buis and Hartman[71] found that shock with plasma loss and hemoconcentration occurs in experimental burns and produces acute congestion of the tissues, especially the liver. Without excluding the possible existence of a burn toxin, they suggested that anoxia resulted from the shock, plasma loss, hemoconcentration and acute congestion as contributing causes of the liver necrosis. But a few months later Wells, Humphrey and Coll,[72] at a meeting of the New England Surgical Society, gave a different interpretation of the liver damage. They claimed that the central necrosis of the liver was the result of treatment with tannic acid solution, tannic acid jelly or tannic acid and silver nitrate solutions. The dangers of the tannic acid treatment in turn enhanced the advantages of the Koch method, both being brought to the attention of a wider public in an editorial published in May, 1942, in the *Journal of the American Medical Association*.[73]

Studies by Siler and Reid[74] presented experimental evidence suggesting that primary pressure dressings may reduce the loss of plasma at the site of, and into the surrounding tissues of, burned areas. On the other hand, the practical possibilities of the pressure method, which presupposes the strictest aseptic technic, were regarded with some skepticism by the armed forces. At the present moment, it cannot be said that any single method has been accepted to the exclusion of all others. The local treatment chosen depends on the site of the burn as well as on its degree, and Volume V of the *Military Surgical Manuals*[75] lists a considerable variety of medications including tannic acid, sulfonamide drugs, saline baths, boric ointment, the Bunyan–Stannard envelope and triple dye, as well as the pressure dressing. But the last-named method stands in the foreground of the debate. At the Cocoanut Grove fire on November 28, 1942, it underwent a favorable test,[76] and is now recommended by the National Research Council. In *Circular Letter No. 15*, dated January 11, 1943, from the Surgeon General's Office,[77] the treatment of burns with boric acid ointment is given first place, and the importance of firm pressure is stressed, especially in burns of the hands and face.

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MASSACHUSETTS MEDICAL SOCIETY

PROCEEDINGS OF THE COUNCIL

Stated Meeting, October 6, 1943

A STATED meeting of the Council of the Massachusetts Medical Society was called to order by the president, Dr. Roger I. Lee, Suffolk, in John Ware Hall, 8 Fenway, Boston, at 10:00 a.m., on Wednesday, October 6, 1943. There were 215 councilors present (Appendix No. 1).

On a motion by Dr. Reginald Fitz, Suffolk, and a second by Dr. David Cheever, Suffolk, the record of the last meeting of the Council (May 24, 1943), as published in the *New England Journal of Medicine*, issue of July 8, 1943, was approved.

Dr. Lee, in commenting on the death of Dr. Halbert G. Stetson, spoke as follows:

> It is the sad duty of the President to announce that Dr. Halbert G. Stetson, of Greenfield, a former president of the Massachusetts Medical Society, died on September 15, 1943. Dr. Stetson was probably known to everybody in the room. He was in his seventy-sixth year.
>
> He received his degree in medicine from the College of Physicians and Surgeons of Baltimore in 1895.
>
> Dr. Stetson had been a prominent member of the Massachusetts Medical Society, giving freely of his time and energy to his activities. He was president of the Society from 1931–1933. He was a delegate from the Massachusetts Medical Society to the House of Delegates of the American Medical Association for twenty years — 1912–1932. He had been a member of the Council for many years. He likewise served as nominating councilor for many years. He was a member of the Committee on Public Relations from 1935 to 1943. He was president of the Franklin District Medical Society from 1901–1903. He also served as secretary-treasurer of this district society for many years.
>
> From 1921 to his death he served as medical examiner for the Eastern District of Franklin County.
>
> He had served as chairman of the Greenfield school board and president of the Franklin County Public Hospital Corporation. He was formerly president of the New York and New England Association of Railway Surgeons and the Connecticut Valley Medical Association.
>
> Dr. Stetson was a member of the Scientific Assembly of the American Medical Association.

It was moved by Dr. Walter G. Phippen, Essex South, and seconded by Dr. Cheever that this memorial be placed upon the records. It was so ordered by vote of the Council.

Report of Executive Committee

The Secretary reported as follows:

The Executive Committee of the Council, at its meeting held on August 25, 1943, discussed the advisability of calling a conference of those who might be expected to represent the point of view of the majority of the physicians of New England anent the Wagner–Murray–Dingell Bill.

It was voted by the committee to empower the president, Dr. Roger I. Lee, to appoint a committee looking toward this end. Pursuant to this action, the following committee was appointed by Dr. Lee: Dr. Walter G. Phippen, chairman, Dr. Frank R. Ober, Dr. Brainard F. Conley and Dr. Michael A. Tighe. This committee will report its activities later in this meeting.

The committee regarded this matter as an emergency inasmuch as Congress was to reconvene in a few days and inasmuch as the committee was given to understand that hearings on this bill were to begin immediately after the Congressional recess.

(The Secretary moved that the Council approve this action of the Executive Committee. This motion was seconded by a councilor and it was so ordered by vote of the Council.)

The committee reviewed the reports of the following committees: Membership, Postwar Loan Fund, Public Relations and War Participation, and approved of their respective recommendations.

In relation to that part of the report of the Committee on Public Relations that deals with the operation in Massachusetts of the plan of the Children's Bureau for the maternity care of wives and infants of enlisted men, the committee expressed its approval in principle and so notified Dr. Vlado A. Getting, Massachusetts commissioner of public health. The Council has received advance information on this matter.

The War Participation Committee, under a directive of the Council, studied a plan organized by the staff of the Beth Israel Hospital for the care of the patients of those of their members who had entered the various services of the United States. In this directive the Council ordered the War Participation Committee to report on the matter to the Executive Committee of the Council.

In accordance with the recommendation of the War Participation Committee, the Executive Committee expresses its sympathy with the ideology involved but does not recommend approval by the Society of the plan as outlined in the protocol.

(The Secretary moved the adoption of this recommendation. This motion was seconded by a councilor. Dr. George L. Schadt, Hampden, asked if, by the Secretary's motion, the Council was being asked to approve the administrative setup in Massachusetts of the plan of the Children's Bureau for the maternal and infant care of soldiers' dependents. The Secretary replied that the Committee was offering no motion with regard to this plan and that the debate on this particular matter would come when the report of the Committee on Public Relations was offered. The motion before the house, he continued, had to do with the plan of the staff of the Beth Israel Hospital for the care of the patients of those of their members who had entered the United States service. The motion was adopted by vote of the Council.)

The Committee, under a directive of the Council, reconsidered the matter of sending gratis one hundred subscriptions of the *New England Journal of Medicine* for one year to the United States Navy and now so recommends.

(The Secretary moved the adoption of this recommendation. This motion was seconded by a councilor. Dr. Carl Bearse, Norfolk, expressed the fear that if this recommendation were adopted we would be put in the position of being partial to the Navy. He said that the Army had agreed to buy about six hundred subscriptions. If the Navy were to get these subscriptions free so should the Army. Dr. Richard M. Smith, Suffolk, favored the recommendation because he thought that it would be to the advantage of the *Journal* and that this organ would not particularly suffer because of the expense involved. The motion was adopted by vote of the Council.)

The by-laws of the Massachusetts Medical Service Corporation require that the board of directors of that organization be approved by the Massachusetts Medical Society, which means the Council. The committee was in receipt of a communication from Mr. Twomey, clerk of the Massachusetts Medical Service Corporation, urging an amendment to these by-laws whereby this approval may be given by the Executive Committee of the Council in the name of the Massachusetts Medical Society. This amendment is urged as a matter of convenience, and is approved by the committee.

(The Secretary moved the adoption of this recommendation. This motion was seconded by Dr. Fitz, and it was so ordered by vote of the Council.)

The committee acknowledges the receipt of two letters addressed to the Secretary — one from Dr. Stephen Rushmore, dean of Middlesex University Medical School, and the other from Mr. Samuel H. Wragg, president of this university. These letters in substance ask the help of the Massachusetts Medical Society in obtaining clinical teaching facilities for this Medical School. The committee took no action on these letters.

The committee approved certain ad interim appointments made by the President. Dr. Lee will ask for the approval of these appointments later in this meeting.

(The Secretary moved the adoption of this report as a whole. This motion was seconded by a councilor. Dr. Hyman Morrison, Norfolk, asked why the committee did not take any action on the letters of Dr. Rushmore and Mr. Wragg. At the direction of the President, the Secretary replied that he could answer the question only from the standpoint of the discussion and debate that took place in the committee when this matter was presented to it. This debate seemed to indicate that it was the feeling of the majority of the committee that the granting of requests contained in these letters would involve the Massachusetts Medical Society in a type of activity in which it should not engage. Dr. Morrison expressed the thought that he had no intention of advocating substandard medical education. He felt, however, that there is an honest effort in this case to improve the teaching and make the school a standard school. He added that he felt that it is along the tradition of the Massachusetts Medical Society to aid this effort. Dr. Harold L. Musgrave, Suffolk, announced that he was a member of the Board of Trustees of Middlesex University Medical School, that this board had been reorganized and that it now was made up of honest men who were trying to do a good job. He said that the preclinical needs of the school had been vastly improved. The inability to meet clinical needs of the school, however, results in failure in an important way. He added that the two letters spoken of in the report of the Executive Committee were prompted by the fact that a committee was appointed by the Society seven or eight years ago to help the school. He pointed out that the school was no longer a proprietary school and that the real motive behind the letters was an appeal for advisory counsel and nothing more. Dr. Musgrave was advised by the President that any motion which he might have in mind in this matter would more properly come under the heading of new business. The report of the Executive Committee as a whole was adopted by vote of the Council.)

Reports of Committees

Committee on Publications — Dr. Richard M. Smith, Suffolk, chairman.

This report, which is as follows, was offered by Dr. Smith:

The committee has secured Dr. Alfred Blalock, professor of surgery at Johns Hopkins University School of Medicine and surgeon-in-chief at the Johns Hopkins Hospital, Baltimore, to deliver the Shattuck Lecture at the annual meeting of the Society in 1944.

There are no important matters in connection with the supervision of the publication of the *New England Journal of Medicine* that need to be brought to the attention of the Council at this time. A full report will be made at the February meeting of the Council.

Dr. Smith moved the adoption of the report. This motion was seconded by a councilor and it was so ordered by vote of the Council.

Committee on Arrangements — Dr. Gordon M. Morrison, Middlesex South, chairman.

Dr. Roy J. Heffernan, Norfolk, reported for the committee as follows:

Last year your committee looked forward to the 1943 meeting of the Society with some uncertainty. Owing to the absence of so many members in the service, to gasoline restrictions and to other wartime conditions we anticipated a small meeting. Fortunately our fears were groundless; the attendance was only slightly less than the previous year, and the presence of a great number of Army and Navy medical officers made us feel that the meeting was justified. At the present time, the treasurer's books show a profit from that meeting of $1863.42.

Your committee has voted that the 1944 annual meeting of the Society be held at the Hotel Statler, Boston, on Tuesday and Wednesday, May 23 and 24, 1944, and that the annual meeting of the Council be held at the same place on Monday evening, May 22, 1944.

Dr. Heffernan moved that the report be accepted. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee on Ethics and Discipline — Dr. Ralph R. Stratton, Middlesex East, chairman.

The report (Appendix No. 2), which was offered by Dr. Stratton, spoke of two all-day meetings that the committee had held. Many of the cases coming before the committee were of minor importance and were settled by letter. Many others required the committee to conduct hearings.

Many of the complaints had to do with the fees charged by doctors. The committee believes that ordinarily it is not within its province to be involved in disputes of this kind.

The report spoke of three specific cases. One concerned an attempt on the part of a member to injure the professional reputation of certain of his professional brethren. The proof was insufficient and the matter was placed on file. The second case concerned a member who was charged with an active attempt to belittle the professional reputation of two other members. The charge in this case was substantiated and the member in question was asked to resign, which he did. The third case was concerned with the personal conduct of a member who was warned by the committee that his habits must improve.

Dr. Stratton moved the acceptance of this report. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee on Medical Education — Dr. Robert T. Monroe, Norfolk, chairman.

No report.

Committee on Membership — Dr. Harlan F. Newton, Suffolk, chairman.

This report, which was presented by Dr. Newton, is as follows:

> The Committee on Membership, meeting with the supervising censors and the Committee on Ethics and Discipline, recommends that the application for reinstatement of Dr. Anthony P. Carogana, of 672 Broadway, Chelsea, this former fellow's resignation having been requested by the Committee on Ethics and Discipline, under the provisions of Chapter I, Section 11, of the by-laws, be approved.

Dr. Newton moved the adoption of the report. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee on Public Health — Dr. Francis P. Denny, Norfolk, chairman.

No report.

Committee on Medical Defense — Dr. Arthur W. Allen, Suffolk, chairman.

No report.

Committee on Society Headquarters — Dr. William H. Robey, Suffolk, chairman.

No response.

Committee on Finance — Dr. Francis C. Hall, Suffolk, chairman.

No report.

Committee on Industrial Health — Dr. Dwight O'Hara, Middlesex South, chairman.

No response.

Report of the Activities of the House of Delegates — Dr. Charles E. Mongan, Middlesex South, senior delegate from Massachusetts.

This report (Appendix No. 3) was offered by Dr. Mongan. At the conclusion of the report Dr. Lee complimented Dr. Mongan on its completeness and ordered it to be made a part of the record.

Massachusetts Committee on Procurement and Assignment — Dr. Reginald Fitz, chairman, reporting through courtesy of the committee.

At the outset, in offering the report (Appendix No. 4) Dr. Fitz said that it was his understanding that his committee was a committee of the Massachusetts Medical Society.

Dr. Lee ruled otherwise pointing out that Procurement and Assignment Service is an agency of the government operating under the War Manpower Commission.

Dr. Fitz moved the adoption of the report. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee on Public Relations — Dr. Albert A. Hornor, Suffolk, chairman.

This report, which was offered by Dr. Hornor, is as follows:

> The committee met on August 18, 1943, at the Harvard Club and all were present except the representatives of two districts. President Lee presided, and I have the honor to report the following business as transacted:
>
> 1. The resignation of Dr. Elmer S. Bagnall, because he had become *ex officio* vice-chairman, and the election of myself as secretary of the committee.
>
> 2. The Committee on Public Relations endorsed in principle the plan of the Children's Bureau, as presented to the committee by Dr. Vlado A. Getting, for the care of wives and infants of men in the armed forces. This is the plan referred to in the advance information for the Council sent out by the secretary of the Massachusetts Medical Society. In the September 16, 1943 issue of the *New England Journal of Medicine* the plan is well described.
>
> 3. Dr. Bagnall asked that the members of the Committee on Public Relations submit to him the names of persons from their respective districts who would further the bank plan for postpayment of medical indebtedness, and this has been done.
>
> 4. A committee, consisting of Dr. Bagnall, Dr. Hornor and Dr. Tighe, was appointed by Dr. Lee to

confer with the Council on Employment Security. The first meeting will be held October 7.

Dr. Hornor moved the acceptance of this report. The motion was seconded by a councilor.

Dr. Schadt took issue with that part of the report as it refers to the last paragraph on page 3 of the sheets of advance information supplied the councilors, which reads as follows:

> The Committee on Public Relations met in conference with Dr. Vlado A. Getting, state commissioner of public health, who discussed the administration of this plan in Massachusetts. In this state all deliveries will be in a hospital. All deliveries will be by graduates of Grade A schools or by those approved by a technical committee; the latter committee for the most part is identical with the Committee on Maternal Welfare of the Massachusetts Medical Society.

He pointed out that there are among the members of the Massachusetts Medical Society many who are graduates of unapproved schools. Under this plan, he continued, these gentlemen will not be permitted to take part in this plan.

Dr. Schadt was informed in this connection that the Massachusetts Department of Public Health had set up a technical committee, the personnel of which is largely made up from the Massachusetts Medical Society's Committee on Maternal Welfare and, when a graduate of a non-approved school applies to practice under this plan, his ability to do so will be assayed by this committee.

Dr. Schadt said that it was important that we understand that certain of our members could not practice under this plan unless they had received the approval of a committee.

Dr. Brainard F. Conley, Middlesex South, asked if it were not true that, when the law was passed in Washington, it was specified that there could be no discrimination as to the qualifications of men provided that they were within their rights to practice in the state in which they lived.

Dr. Lee said that the Attorney General of the United States had ruled that the Children's Bureau could not discriminate in the manner mentioned by Dr. Conley but this ruling was not binding on the states.

The Secretary pointed out that each state had its own administrative setup and that, when Dr. Getting met with the Committee on Public Relations, he said that he had a ruling from the Attorney General of Massachusetts to the effect that the Department of Public Health was within its rights, under the law, in setting up the conditions under which this plan should be operated in Massachusetts.

Dr. Mongan said he would not ask the Attorney General of Massachusetts, no matter how eminent he might be, to decide a question of federal law.

Dr. Hornor said that there are two points at issue. In the first place, it is clear that federal boards cannot discriminate. On the other hand, in the actual administration of the plan in the several states, the health departments of those states are within their rights in designating those who will give their services under the plan. At least this is true in Massachusetts, Dr. Getting having the word of the Attorney General of Massachusetts to this effect.

Dr. Smith, a member of the Public Health Council, confirmed the latter statement in response to a question put by Dr. Schadt.

Dr. Donald Munro, Suffolk, was recognized by the chair. He said he would like to discuss certain other objections to this paragraph in the report of the committee:

> As I understand it, the recommendation of the committee is that this law be approved in principle. It seems to me that is wrong. I refer to the financial relation between the patient and his doctor. As I understand this law, there is a provision whereby the doctor is paid directly from the federal government or its representative, and there is no financial agreement between the patient and his doctor. A set fee is paid for certain services, and that is given directly to the doctor without any intervention or consent on the part of the patient. Is that correct?

Dr. Hornor replied, "The consent of the patient and the doctor must be agreed to; they must be in agreement before they make any application, and in making the application, they both sign a definite agreement as to that particular fee."

Dr. Munro continued:

> Nevertheless, the fee is paid directly to the physician by the Government and not by the patient. It seems to me that this violates a principle that we have supported for a great many years. I do not think that any member of the Massachusetts Medical Society will raise his hand to stop the law, but I do think it opens up that phase or aspect of the problem, and I think for that reason that this law should not be approved in principle by this body. Furthermore, it seems that this is the opening wedge looking toward the establishment of state or federal medicine. Here we are now advocating in principle the payment by the federal government of moneys to the doctor without any formal agreement between the doctor and his patient. I think that is bad and it should be opposed by this society as a group. I am informed that practically every state society throughout the country has also taken that same attitude. They felt that this is a law which violates our principles. I recognize that, regardless of any action of the Society, the payment of these moneys and the putting into effect of this law will take place; but I think that this society should raise its objection to the violation of the principle involved. I hope that paragraph 2 of Dr. Hornor's report will not be accepted.

Dr. Hornor said that every member of the Committee on Public Relations felt the same way as Dr. Munro did. He said the committee was also aware that Dr. Munro's stand was the stand of the House of Delegates of the American Medical Association but that there did not seem to be any other way in which to put this proposal into effect.

Dr. H. Quimby Gallupe, Middlesex South, secretary of the State Board of Registration in Medicine, said he was instructed by his board to state that it would offer no objections to the plan proposed by Dr. Getting. He called attention, however, to the fact that there were a very large number of registered physicians in the Commonwealth who are graduates of unapproved schools and that there are many thousands of families being cared for by such graduates. He added that these families have within their numbers many citizens who contribute to the federal funds that support this plan. He thought that this matter would be better organized if the plan would indicate that all registered physicians in the Commonwealth could participate if they initially could prove to the Technical Committee their ability to do satisfactory obstetrics. An alternative to this, he continued, would be to have the plan open to all members of the Massachusetts Medical Society who could prove to the Technical Committee their ability to do satisfactory obstetrics.

Dr. Paul J. Jakmauh, Norfolk, was recognized by the chair. He said that the program under discussion was presented while he was commissioner of health of Massachusetts and that, as a result of a survey that he had made, he found that there was no need of it. He said that the plan would go on anyway whether we approved it or not and intimated that the Society should commit itself only after a free and thorough discussion of it.

Dr. Norman A. Welch, Norfolk, said that at the time the Massachusetts plan was first presented to the Committee on Public Relations, it had already gone to Washington for the approval of the Children's Bureau and that the reason for the haste in getting the Society's approval of it was a desire on the part of the Commissioner of Health to be able to say that the physicians of Massachusetts approved. He added that the plan, as outlined, did discriminate against certain physicians and in this respect we should move cautiously. We cannot, however, he continued, be in the position of failing to co-operate with the federal government in a plan that provides for the maternal and infant care of soldiers' dependents.

Dr. Smith explained that the haste mentioned by Dr. Welch was due to the fact that, under the law, the plan had to be in effect by September 1.

Dr. Conley expressed the thought that there are many principles involved in the plan and he wanted to know which of those we were accepting.

Dr. James C. McCann, Worcester, thought we might favor the program and leave the question of principles for another time.

Dr. Charles C. Lund, Suffolk, expressed himself as being in accord with many of the criticisms of the plan already mentioned. He thought, however, that it would be harmful to our public relations if the word went out that the doctors of the Commonwealth refused to play ball. He added that public relations might be further improved if we should ask the Children's Bureau and Dr. Getting to remove the apparent discrimination against certain doctors.

Dr. Richard Dutton, Middlesex East, asked whether the State Department of Public Health, in operating this plan, would act as a state body or as a federal body.

At the request of the chair, Dr. Smith answered by saying that the state department was merely distributing certain federal funds under regulations set up by this department. Dr. Hornor added that these regulations must be approved by the Children's Bureau, to which Dr. Smith agreed.

Dr. Leroy E. Parkins, Suffolk, said he was opposed to approving this thing officially. He added that he would like to co-operate but the way suggested did not appeal to him.

Dr. Elmer S. Bagnall, Essex North, president-elect, thought that this matter should for the moment be tabled until such time as action could be properly worded. He favored the appointment of a committee of the Council which would consider this matter, such a committee to report later in the meeting. Dr. Bagnall offered this as an amendment to Dr. Hornor's motion to accept the report. This amendment was seconded by a councilor.

There was much discussion at this point, principally as to procedure. Participating in the discussion were Dr. Lund, Dr. Philemon E. Truesdale (Bristol South), Dr. Schadt, Dr. McCann, Dr. Fitz, Dr. Nathaniel W. Faxon (Suffolk), Dr. Edward F. Timmins (Suffolk), Dr. Hornor and Dr. Mongan.

The chair called for a show of hands as to the advisability of receiving the report of the Committee on Public Relations without adopting what might be termed the recommendation contained therein. The vote was overwhelming in favor of such a procedure.

Dr. Lee declared the report received.

Dr. Hornor moved that the question of the care of the wives and children of men in uniform be

referred back to the Committee on Public Relations and that in the meantime the Society cooperate with the Commissioner of Public Health in the execution of the plan as now developed. This motion was seconded by a councilor.

Dr. Bagnall again reiterated his original thought that it would be much better if a committee of five of the Council were appointed by the President to bring in a report on this matter later in the meeting, such a committee to have in mind the discussion which has already taken place.

At the suggestion of the chair Dr. Bagnall acquiesced in offering this as a substitute motion. This substitute motion was seconded, and it was so ordered by vote of the Council.

The chair appointed Dr. Hornor, Dr. Smith, Dr. Bagnall, Dr. Welch and Dr. Gallupe. (These gentlemen retired.)

Committee on Legislation — Dr. Brainard F. Conley, Middlesex South, chairman.

No report.

Committee on New England Conference Anent Senate Bill 1161 (Wagner-Murray Bill) — Dr. Walter G. Phippen, Essex South, chairman.

Dr. Phippen reported as follows:

> The Executive Committee of the Council of the Massachusetts Medical Society empowered the President to appoint a committee to consult with representatives of the New England state medical societies regarding a joint conference between doctors and legislators of New England on the subject of the Wagner–Murray–Dingell Bill, with power to proceed with such a meeting if they so decided. The President appointed to that committee Dr. Walter G. Phippen, chairman, Dr. Frank R. Ober, Dr. Brainard F. Conley and Dr. Michael A. Tighe.
>
> The committee met and decided to invite the New England state medical societies to send representatives to an informal meeting to discuss what steps if any should be taken, to influence the New England senators and representatives. In response to this invitation nine members of the medical societies of Maine, New Hampshire, Rhode Island and Connecticut met with your committee and the President of the Massachusetts Medical Society on Wednesday, September 22, 1943. While this conference was purely informal it was very satisfactory. Various angles of the situation were discussed and the viewpoints of the other states were well presented. It was the unanimous opinion of this group that it would be unwise, for various reasons, to try to hold a joint meeting of New England doctors and congressmen. It was, however, thought wise to consider the organization of an informal New England group to study and analyze the Wagner–Murray–Dingell Bill, and to distribute information and criticisms, possibly advice, as to the proper approach to senators and representatives, and send this to various members of the profession throughout New England with the idea that personal contact might do more good than large conferences. With this end in view the meeting adjourned to meet again on October 20.

On a motion by Dr. Phippen and a second by a councilor the report was accepted as a report of progress.

Committee on War Participation — Dr. William B. Breed, Suffolk, chairman.

This report (Appendix No. 5) spoke in terms of appreciation of the work done by the district reviewing committees. It said that 321 names were submitted to these committees and 298 had been reported on; 102 were declared available, 31 were already in the service and 32 had already submitted their applications. Twenty-nine were declared essential, and 104 were not available.

The report recommended that the present reviewing committees in the several districts be not discharged, but be retained with the same personnel and organization (chairmen and secretaries) as district committees on war participation, subcommittees, so to speak, of this committee.

Dr. Breed moved the adoption of the recommendation. This motion was seconded by Dr. Mongan, and it was so ordered by vote of the Council.

The report further recommended that an appropriation of $300 be made to this committee for past and future expenses, largely clerical, from the time of its appointment to January 1, 1944.

Dr. Breed moved the adoption of this recommendation. The motion was seconded by a councilor.

The Secretary announced that the Committee on Finance approved, and it was so ordered by vote of the Council.

Committee on Postwar Loan Fund — Dr. George Leonard Schadt, Hampden, chairman.

This report (Appendix No. 6) was offered by the chairman who moved its acceptance as a report of progress. This motion was seconded by a councilor and it was so ordered by vote of the Council.

Committee on Public Relations (continued)

Dr. Hornor, in reporting for the committee of five appointed earlier in the meeting, made the following motion:

> The Council of the Massachusetts Medical Society pledges full co-operation with the Massachusetts Department of Public Health in the procurement of adequate care for the wives and infants of men in the armed forces. The Council respectfully requests that the Commissioner of Public Health modify the regulations with reference to "Standards of Medical Care," paragraph 2, as printed in the *New England Journal of*

Medicine for September 16, 1943, so that the physician who is to be paid for maternal or infant care must be registered in Massachusetts and must be found qualified by training or experience in obstetrics or pediatrics and approved by the technical committees appointed by the Commissioner of Public Health.

Dr. Hornor moved the adoption of this motion. The motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee to Meet With the Medical Advisory Committee of the Industrial Accident Board — Dr. Daniel J. Ellison, Middlesex North, chairman.

No report.

Subcommittee on Tax-Supported Medical Care — Dr. Elmer S. Bagnall, Essex North, chairman.

This report, which was offered by the chairman, is as follows:

The State Department of Public Welfare has, with the approval of its advisory board, adopted a formulary of approved drugs. This is based on pharmacopoeal rather than more expensive proprietary remedies. The druggists are co-operating effectively.

We recommend that the Council of the Massachusetts Medical Society approve the formulary in principle and that physicians treating old-age and state-welfare patients be urged to accept the initial minor inconveniences as a public service in the interest of proper economies.

Dr. Bagnall moved the adoption of the recommendation. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Subcommittee on Postpayment Medical Care (Bank Plan) — Dr. Elmer S. Bagnall, Essex North, chairman.

Dr. Bagnall said that the committee was to have a meeting at the close of the Council meeting and that a vice-president of the National Shawmut Bank is endeavoring to obtain material for the committee from the National Bank Association. Dr. Bagnall moved that this report be adopted as a report of progress. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Subcommittee on Prepayment Medical-Care Costs Insurance — Dr. James C. McCann, Worcester, chairman.

Dr. McCann reported as follows:

When I reported in June there were about 2000 members enrolled. The early period of organization was necessarily given over to approaching industrial groups, and I can say that our enrollment now in the first year will be 10,000. That compares very favorably with all the states except one. New Jersey in the first year had about 7000, and Colorado in about the same period had 10,000 and is concerned with whether it can go much beyond that. Pennsylvania in three years has approximately 10,000 enrollments. Michigan must be looked on as most unusual because of its huge organized industries. Its enrollment is running up to 500,000.

With regard to the financial condition of the organization, last June the subscriptions were $6000. Today they stand at $30,000. The operating expenses are about $11,000 and the payments to members to date about $10,000, which, other than that initial cost of $4000 for organization expense, leaves the Massachusetts Medical Service Corporation with a balance of $1200. That takes care of the $300 required for the premium and the 25 per cent reserve required by the Commissioner of Insurance. It may possibly be that the reserve will be waived for the first year, which would allow us to remove the obligation of the $4000, probably about $4000 surplus, without having to use any of the $25,000 that the Council so generously donated. So that we have our program rolling along at about the average rate, and rolling along with every propect of success.

Dr. McCann's complete report (Appendix No. 7) was read by title only.

Dr. McCann moved that the report be accepted as a report of progress. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Military Postgraduate Committee — Dr. W. Richard Ohler, Norfolk, chairman.

No report.

Committee to Aid the District Rationing Administrator — Dr. Joseph Garland, Suffolk, chairman.

Dr. Garland reported as follows:

Your committee, since notification of its appointment on June 21, has met four times with the district rationing officer, Mr. John M. Deely, and Miss Elizabeth Golden, of the Food Rationing Division. About 730 persons, up to October 1, have applied for unusual allotments of rationed foods on Doctors' Certificates of Patients' Necessity, of which 240 have been reviewed in detail by the members of the committee. The remainder were passed on at the district office under instructions laid down by the committee. Between 20 and 30 certificates were rejected. In addition to these requests, several thousand certificates have been approved by the local war price and rationing boards according to directions furnished by the committee.

At the present time, certificates are coming in at the rate of approximately 150 per month, which perhaps is not an unusual number to come from an area with over 3,000,000 inhabitants, and would seem to indicate that the medical profession as a whole is co-operating well with the rationing officials. There will probably be a sharp increase from now on, however, as the district has been enlarged, as of October 1, to cover the entire state, adding some 2,000,000 individuals to the program.

It seemed desirable at the start to establish certain reasonable maximums of rationed foods that would apply to the majority of cases, regardless of the medical diagnosis, and your committee, after consulting with various competent authorities, accepted the standard established by Joslin and others for diabetics, namely, 32 pounds of processed foods and 40 of meats and fats for each two-month period. Local rationing boards have been advised that they may grant up to these maximums on certificates properly executed by registered physicians. All requests in excess of these maximums are forwarded to the district office for review.

It is obviously not the function of this committee to decide in what manner and by what method medicine is to be practiced in Massachusetts, but only to prevent abuse of the privilege of prescribing extra rations, so that a limited supply of certain foods may be fairly distributed.

So far as local district rationing officials have been able to discover, Massachusetts is the only state that has made the effort to handle the requests for extra food rations in this manner.

Dr. Garland moved the adoption of the report. This motion was seconded by a councilor and it was so ordered by vote of the Council.

Committee to Aid the Boston Medical Library — Dr. William H. Robey, Suffolk, chairman.

Dr. Robey reported that the work of the committee had been finished. He moved that it be discharged. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Committee on Cancer — Dr. Ernest L. Hunt, Worcester, chairman.

No report.

Committee on Postgraduate Instruction — Dr. Reginald Fitz, Suffolk, chairman.

No report.

Committee on Physical Therapy — Dr. Arthur L. Watkins, Middlesex South, chairman.

No response.

Committee on Expert Testimony — Dr. Frank R. Ober, Suffolk, chairman.

No report.

Committee on Automobile Insurance Claims — Dr. Henry C. Marble, Suffolk, chairman.

No response.

Committee on Convalescent Care — Dr. T. Duckett Jones, Norfolk, chairman.

No response.

Committee to Study the Practice of Medicine by Unregistered Persons — Dr. Richard Dutton, Middlesex East, chairman.

No report.

Committee to Meet With the Massachusetts Hospital Association — Dr. Walter G. Phippen, Essex South, chairman.

No report.

Committee on Maternal Welfare — Dr. Judson A. Smith, Suffolk, chairman.

No response.

Committee on Rehabilitation — Dr. William E. Browne, Suffolk, chairman.

The report which was offered by Dr. Browne is as follows:

This communication is obviously not a report from the Committee on Rehabilitation. Even though quite frequently in the daily press and various professional, including medical, journals the need for rehabilitation is being stressed more and more, no meeting of your committee has been held since the last meeting of the Council of the Massachusetts Medical Society.

Curtis M. Hilliard, director of the Subdivision of Health, Massachusetts Committee of Public Safety, called a meeting of his fairly large committee on September 14, 1943. Only four members of his committee, however, answered his call. He has again notified all members of his committee that an important meeting will be held October 8. Shortly after this meeting the members of your committee will get together and try to arrange a program that may be of some help in this important work of rehabilitation.

It may be of interest herein to state that already it seems apparent that the members of the Massachusetts Medical Society can be of real assistance with the formation of a group of physicians in each district who may review, when called on to do so, the medical problem of anyone discharged from service because of some form of disability. At the present time it does not seem that the members of the Massachusetts Medical Society can do very much in the matter of aiding those discharged, even when rehabilitated, in getting a job. With information at hand it is not entirely clear what the federal government will do in this matter. Certain states have gone ahead with tentative programs, but no very definite program has been worked out thus far.

I repeat that following the meeting on October 8 the Committee on Rehabilitation will meet and, if necessary, send a communication to the Executive Committee of the Council of the Massachusetts Medical Society before the next general meeting of the Council.

On a motion by Dr. Browne and a second by a councilor the report was accepted as a report of progress.

Committee on Ways and Means to Conserve Physicians' Energies — Dr. Elmer S. Bagnall, Essex North, chairman.

No report.

Appointments

Dr. Lee named Dr. Fritz B. Talbot, Suffolk, chairman of the Auditing Committee for 1943 and

Dr. Harry Linenthal, Norfolk, as the second member of this committee. These nominations were confirmed by vote of the Council.

The following ad-interim appointments, made by the President, were confirmed by vote of the Council:

To the Council:

Dr. John T. Batal, Essex North, replacing Dr. Elmer S. Bagnall, who has become a member *ex officio*.

Dr. John E. Burns, Norfolk, replacing Dr. Norman A. Welch, who has become a member *ex officio*.

Dr. Joseph H. Carey, Norfolk, replacing Dr. Louis F. Curran, deceased.

Dr. Henry M. Landesman, Norfolk, replacing Dr. Morris Frank, deceased.

Dr. Nahum R. Pillsbury, Norfolk South, replacing Dr. Daniel B. Reardon, who has become a member *ex officio*.

To the Committee on Finance:

Dr. Francis C. Hall, chairman, replacing Dr. John Homans, resigned.

To the Committee on Legislation:

Dr. William E. Browne, Suffolk, replacing Dr. William B. Breed, resigned.

Dr. John J. McNamara — representative from Plymouth District.

Dr. Henry Wardle — representative from Bristol South District.

To the Military Postgraduate Committee:

Dr. Gordon M. Morrison.

To the Committee on Postpayment Medical Care (Bank Plan):

Barnstable: Dr. Harold F. Rowley
Berkshire: Dr. Charles F. Fasce
Bristol North: Dr. James H. Brewster
Bristol South: Dr. Harold E. Perry
Essex North: Dr. Elmer S. Bagnall, chairman (already a member of committee)
Essex South: Dr. Loring Grimes
Franklin: Dr. Howard M. Kemp
Hampden: Dr. Patrick E. Gear
Hampshire: Dr. Alfred J. Bonneville
Middlesex East: Dr. Wilfred L. McKenzie
Middlesex North: Dr. Daniel J. Ellison (already a member)
Middlesex South: Dr. Egon E. Kattwinkel
Norfolk: Dr. Norman A. Welch
Norfolk South: Dr. Walter L. Sargent
Plymouth: Dr. Michael F. Barrett
Suffolk: Dr. Francis T. Jantzen
Worcester: Dr. James T. Brosnan
Worcester North: Dr. William G. LeBrecht

To the Postwar Loan Fund Committee:

Drs. George L. Schadt, chairman, Edward P. Bagg, C. Sidney Burwell, John Homans, Eliot Hubbard, Jr., Peirce H. Leavitt, Herbert L. Lombard, Hyman Morrison, Walter G. Phippen, William F. Ryan, David D. Scannell, Charles A. Sparrow, Ralph R. Stratton, Michael A. Tighe, Charles F. Wilinsky.

To the Committee Concerned with Prepayment Medical Care Costs Insurance:

Dr. Joseph C. Merriam, replacing Dr. William B. Breed, resigned.

To the Committee on Public Education:

Dr. Joseph Garland, replacing Dr. Richard M. Smith, resigned.

To the Committee on Public Relations:

Dr. Harold R. Kurth, replacing Dr. Elmer S. Bagnall, who has become a member *ex officio*.

To the Committee to Aid the District Rationing Administrator:

Dr. Joseph Garland, chairman, Dr. F. Gorham Brigham, Dr. Franklin W. White.

To the Committee to Arrange Conference with New England Physicians Anent the Wagner–Murray–Dingell Bill:

Dr. Walter G. Phippen, chairman, Dr. Frank R. Ober, Dr. Brainard F. Conley, Dr. Michael A. Tighe.

To Massachusetts Hospital Service, Incorporated (voting member):

Dr. Joseph C. Merriam, replacing Dr. David L. Halbersleben, resigned.

New Business

The chair recognized Dr. Harold L. Musgrave, Suffolk. The latter asked that the letters from Dr. Rushmore and Mr. Wragg, referred to in the report of the Executive Committee, be read.

These letters were read by the Secretary. They are as follows:

Middlesex University School of Medicine
May 25, 1943.

Dr. Michael A. Tighe, Secretary
Massachusetts Medical Society
8 The Fenway
Boston, Massachusetts

Dear Dr. Tighe:

The Massachusetts Medical Society has from time to time formally directed its attention to the School of Medicine of Middlesex University, and it is the opinion of the school that the time has come for the Society to do so again. The grounds for this opinion are set forth below, after reviewing some of the past occasions.

In 1936, a law was passed in Massachusetts establishing an approving authority for medical schools, and in accordance with this statute, no graduate of a medical school not approved by this authority should, after a certain time, be admitted to examination for license to practice medicine in this Commonwealth. The effect of this law on Middlesex Medical School was to stimulate the efforts at improvement which had previously seemed to be rather desultory and separated by rather long intervals of time. In that same year a letter was written to the Massachusetts Medical Society by Middlesex College in which it was indicated that the good offices of the Society in plans for improving the school would be appreciated.

The Committee on Medical Education and Medical Diplomas, of which Dr. Reginald Fitz was chairman, presented as part of its report to the Council at its stated meeting held October 7, 1936, the following recommendations: "That the Massachusetts Medical Society inform the Trustees of Middlesex College that the Society is deeply interested in the improvement of all conditions which have to do with the giving of medical education in Massachusetts; that the Society is anxious to do all that it can to help Middlesex College develop in an approved manner. The Society suggests that the Trustees of Middlesex College lay before the president of the Society suggestions as to how the Massachusetts Medical Society might be of help to Middlesex College."

The proceedings of the Council read further as follows: "In addition to the foregoing formal recommendation the committee offered the suggestion that the President be empowered to appoint a committee of fellows of the Massachusetts Medical Society to act on behalf of the Society in an advisory capacity to any medical school or college in helping direct such institution's efforts to develop and improve its facilities for teaching. The report of the committee was accepted by vote. The Council next adopted the formal recommendation of the committee and voted approval of the suggestion that the President appoint an advisory committee recommended by the Committee on Medical Education and Medical Diplomas."

In June, 1939, Dr. Elliott Joslin, recognizing that the Society had an important interest in all efforts directed toward the education of physicians within the Commonwealth, and therefore had some obligation in the matter, and being aware of a certain expressed willingness on the part of the school to accelerate its progress, devoted a considerable part of his annual discourse before the Society to the discussion of the problem presented by Middlesex School of Medicine and he made a number of suggestions noting some steps to be taken by the college.

Actually so little seemed to be done following the action of the Council in 1936 and following the suggestions made by Dr. Joslin in 1939 that the general impression has been that nothing was accomplished. But it was important that the problems should have been brought to the attention of the medical profession and be discussed frankly and freely. It became more evident that here was a problem in which the medical profession had a great interest, and since the law said in substance that the school would, within a comparatively short time, have to be salvaged or closed, more serious attention was given to the question of whether the school should be salvaged and if not why not.

Without going into the details of a rather complicated situation, it may be summarized by saying that the impression spread that the school was willing to be salvaged by the efforts of others rather than by its own efforts and many persons raised the question: Why bother about the school if it was not willing to help itself?

It is because this impression was not quite correct that the school would like to bring to the attention of the Society the condition in which it actually now is, so that the Society may become aware of how much has been accomplished by the school in transforming itself and in making progress on the way to deserving approval.

The basic criticism of the school was its proprietary character. Assurance can be given that in this respect the change has been radical and complete. The proprietary features have been removed and will not be permitted to return.

Another criticism was that the standards of admission were low. For a number of years, until the present war emergency, the requirements were a baccalaureate degree and the generally accepted minimum requirements in science as set by the Council on Education of the American Medical Association. The quality of the students as judged by scholastic attainments in college has been steadily improving.

Another criticism was that Middlesex accepted students who had failed elsewhere. For a number of years no student who failed in another medical school has been admitted to advanced standing. Occasionally a student from this group has been admitted to the first-year class, but no credit is given for any work done in another medical school if the candidate has been dropped on account of poor scholarship.

Another criticism has been that graduates of schools of osteopathy were admitted to advanced standing and were given their degrees in medicine after one year of attendance. This practice was especially objectionable because so few osteopathic physicians had fulfilled the usual minimum premedical requirements. For a number of years, no credit toward the medical degree has been given by Middlesex for work done in a school of osteopathy.

The status of the graduates has been improved as they are now eligible for commissions in the armed forces and over two hundred have actually been commissioned. The students and the faculty have been given deferment and over $18,000 of the War Loan Fund has been given to Middlesex students.

Certain much needed improvements it has been impossible to complete under wartime conditions but plans are in the making for rapid development as soon as conditions permit. The demand for medical education has not diminished and the school is still overcrowded but the instruction in the first and second years is good. It is in the third and fourth years that serious deficiencies persist, due to lack of clinical facilities.

There has been expressed a fear that hospitals approved by the Council on Medical Education of the American Medical Association would lose their standing with this body if they permitted the use of their clinical facilities for the teaching of the students of Middlesex. The secretary of the council, Dr. Herman G. Weiskotten, has stated explicitly that as far as the rating by the council is concerned, such teaching of students would have no effect. Thus this difficulty has now been removed.

One of the great obstacles to the progress of the school has been the adverse sentiment of the medical profession, largely due to the just criticism based on the points which have been noted above but the grounds for which are now things of the past.

The school is prepared and will be very glad to enter into conference with the Massachusetts Medical Society along the lines suggested by the Committee on Medical Education and Medical Diplomas in 1936, or in any other way that seems appropriate to the officers of the Society, and it hopes that the Society is as willing now as it was in 1936 to assist the school in such ways as may seem practicable.

Yours sincerely,

Stephen Rushmore (signed)

STEPHEN RUSHMORE, M.D., *Dean*

MIDDLESEX UNIVERSITY

August 16, 1943

Dr. Michael A. Tighe, Secretary
Massachusetts Medical Society
8 The Fenway
Boston, Massachusetts

Dear Dr. Tighe:

Several times in the past the Massachusetts Medical Society has expressed its willingness to be of assistance to Middlesex University School of Medicine. We believe now that the time has come when your society may aid us in a very material way.

The Executive Committee of the Board of Trustees, as at present constituted, has during the past year made considerable improvement in the medical school, and is now much in need of the assistance which the Executive Committee believes the Massachusetts Medical Society may give. This point of view, I believe, has been presented to your society by our dean, Dr. Stephen Rushmore, on May 25, 1943, and since time is important we should now greatly appreciate your appointing a small committee to meet with a similar committee of the university at an early date.

The School of Medicine is training several hundred students for eventual service as commissioned officers in the United States Army Medical Corps. It is greatly handicapped in its efforts by the lack of adequate clinical teaching facilities. The trustees of the university ask the Massachusetts Medical Society for assistance in order that the university may provide a better training for these prospective physicians, whose services are so vitally needed, as indicated by the leading editorial, entitled "More Doctors Needed for the Armed Forces," in the August 7 issue of the *Journal of the American Medical Association.*

Very truly yours,

Samuel H. Wragg (signed)

SAMUEL H. WRAGG, *President*

The Secretary said for the information of the Council that on October 7, 1936, the following motion was passed by the Council:

> That the Massachusetts Medical Society inform the Trustees of Middlesex College that the Society is deeply interested in the improvement of all conditions which have to do with the giving of medical education in Massachusetts; that the Society is anxious to do all that it can to help Middlesex College develop in an approved manner. The Society suggests that the Trustees of Middlesex College lay before the president of the Society suggestions as to how the Massachusetts Medical Society may be of help to Middlesex College.

He continued that, under this motion, the following committee was appointed: Dr. Reginald Fitz, chairman, Boston; Dr. Fresenius Van Nüys, Weston; Dr. James F. Donaldson, Salem; Dr. William F. Lynch, Worcester; Dr. William T. Frawley, Pittsfield. He added that there is no record that this committee has ever reported.

Dr. Musgrave spoke of the radical changes which had taken place in the personnel of the trustees of Middlesex University Medical School. He said that the old order is gone forever, that this school has ceased to be a proprietary school and that it is now in the hands of honest and earnest men who want to do and who are doing a good job. He added that facilities for clinical teaching represents the school's greatest need. He pointed out that the graduates of this school are being commissioned in the Medical Corps of the United States Army.

Dr. Musgrave moved that the committee, heretofore referred to as appointed in 1936, be dis-

solved. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Dr. Musgrave moved that a committee be appointed to discuss with the trustees of Middlesex University their problems in their attempted improvement of the school. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

Dr. Earle M. Chapman, Suffolk, was recognized by the chair. He spoke as follows:

> At the May meeting of the Council many of you applauded the report of the Committee on Legislation in which we were advised that only $50 was spent on legal aid. It is unfortunate that you who applauded did not also hear Dr. Quimby Gallupe, secretary of the Board of Registration in Medicine, expose the shocking inadequacies of our legislative committee in the May 27 meeting. In this year's session, a relatively inactive year, two bills of great importance to the Massachusetts Medical Society went through without either the support or opposition of our society.
>
> First, the Antivivisection Bill reached the Governor's desk, where it fortunately was stopped by him. This bill was not opposed.
>
> Second, a vital bill to improve the standards of practice in this state was defeated. This was a bill which would limit to the number of three the times that a man could appear before the Board for re-examination. This bill received no support from the Committee on Legislation and, as Dr. Gallupe expressed it, he likes to feel that the Board of Registration functions in the State House for the Massachusetts Medical Society. In closing his address at that time Dr. Gallupe made two specific recommendations to the Society: that we employ adequate legislative counsel, and that, in order to improve the standards of practice, we favor the annual registration of physicians.

Dr. Chapman moved that the Council of the Massachusetts Medical Society recommend employment of adequate legislative counsel to aid legislation favorable to the medical profession and to oppose legislation that is considered unwise. This motion was seconded by a councilor.

Dr. Welch asked if this motion were passed would it compel the Committee on Legislation to employ counsel irrespective of its judgment as to the necessity for such employment. Dr. Lee replied that such was his understanding of the motion.

Dr. Lester M. Felton, Worcester, asked what was the meaning of the words "adequate counsel" as they appear in the motion. Dr. Chapman replied that these terms refer to a lawyer who makes the serving of our interests a full-time job or mostly a full-time job, who will make it his business to be up at the State House and work in our interests as a lawyer.

Dr. Cyril M. Lydon, Norfolk, asked if the problem had not in the past been cared for by the committee which handles our legislative matters.

Dr. Lee asked Dr. Brainard F. Conley, chairman of the Committee on Legislation, to come forward and be heard. He further asked that Dr. Conley say something about the historical development of the present committee. Dr. Conley spoke as follows:

> I thought that the day had come when all reverberations of dissension and personal feelings had gone. I thought the day had come when the Massachusetts Medical Society was being represented by men who had at heart only the interests of the public in general and that of their fellow practitioners. I thought that this laudable object was accomplished this past year. It was accomplished by and as the result of a new setup — a committee which is now no longer a junior committee but a committee which is appointed as truly representative, a democratic group of men — one man from each district who is elected by each district, and they together elect a chairman and a clerk. That committee met and elected as chairman myself, and elected as secretary Dr. Lester M. Felton, of Worcester — and a no more conscientious man is in this society than Dr. Felton.
>
> We have the full co-operation of every member of your committee. We had unanimous action on every bill that was discussed. It is one of the most pleasant assignments that I have ever had on any committee. And as a result of our work we returned to this Society a goodly portion of the amount of money which we asked for at the beginning.
>
> The reason for that return of money was that we did not need to spend it. We were not spending it for any purpose other than actual need. We were not giving away the money of the Society. We were not seeking any outside assistance unless that assistance was needed; and when that assistance was needed, we consulted an attorney in a firm in Boston. Now, it is in the by-laws that in order to have counsel or engage the services of legal counsel it is necessary for the Committee on Legislation to get permission from the President. That was done. I know it was done because I did it myself by calling Dr. Schadt, your president, at his home in Springfield and told him the point had come when we needed the services or the opinion of legal counsel, and Dr. Schadt immediately gave me permission to engage counsel, which we as a committee felt we needed. And he gave me permission to engage counsel who had been agreed upon by the five working members of the committee, namely, Dr. William Breed, Dr. John Fisher, Dr. Lester Felton, Dr. Charles McCann and myself. That was the working committee.
>
> Now, then, $1500 was the price which was proposed. We did not feel that it was necessary to spend $1500 for legal assistance, and I discussed with our committee of five the possibility of needing an attorney or legal counsel. We decided to ask legal counsel from the firm of Powers and Hall, attorneys in Boston — attorneys who handle, perhaps, 70 per cent of all malpractice cases. Mr. Leland Powers has appeared before many district societies as a speaker on medical aspects of laws and legislation; and I believe there is no more competent legal concern in Boston to give aid to us. That firm of attorneys was asked for counsel, with the limitation that we would pay

them for what advice we got or needed and not on any established yearly basis or fee.

I spent one afternoon in the office of Powers and Hall and went over every bill which seemed to require legal counsel or legal advice. I spent from 2:30 until 6:15 in that office with Mr. James M. Clark, a graduate of Harvard University in the Class of 1904 and Harvard Law School later, and a man who graduated with honors and is regarded by the legal profession of the United States as an authority. That cost us $50. If necessary, your committee would have spent the entire amount the Council had given us if we needed it —but we did not need it.

Now, then, regarding the matter of the three bills of the Board of Registration in Medicine, I have been beside the secretary of the State Board of Registration in Medicine at this meeting. At the request of Dr. Quimby Gallupe, the secretary of the State Board of Registration in Medicine, I personally appeared at the State House at the hearing given by the Committee on Public Health on those bills, and I personally — and Dr. Gallupe is present and will bear me out — put the Massachusetts Medical Society on record as favoring those three bills.

Now, on the antivivisection bill, that bill was heard before the Committee on Public Health. I was present at that hearing and I listened to the arguments, pro and con, and I put the Massachusetts Medical Society on record as opposing that antivivisection bill.

Your Committee on Legislation has had a recording on every bill that came before the Committee on Public Health. That is a matter of record with the clerk, Norman F. Wellen, of Marlboro. On every bill that pertained to medicine there was an appearance or a recording of the Massachusetts Medical Society.

I have no apologies to make for my committee or for myself for any bit of our conduct in representing you during the past legislative year.

Dr. Chapman's motion was put by the chair and defeated by vote of the Council.

Dr. Chapman moved that the Council of the Massachusetts Medical Society favor the annual registration of physicians in order to further maintain the standards of practice. This motion was seconded by a councilor.

Dr. Welch asked to be recorded as opposed to this motion.

Dr. Chapman expressed a desire to hear Dr. Gallupe on the motion. At the invitation of the chair, Dr. Gallupe came forward and spoke as follows:

For the second time I am here, but I did not come until asked to do so. The Board of Registration in Medicine has felt that it would be of some help to have an annual registration or reregistration of physicians because it was found that it has been of some help for nurses and dentists. It has seemed to us that there was not in our office at the State House sufficient information about physicians who have registered to practice in the Commonwealth. We register a physician once and he is forever registered unless he does something wrong, and after we register him we have no further information about him of any nature. We do not know whether he has continued to practice medicine or not. We have no information about him. We do not know anything more except that he has registered to practice; and none of the doctors in his city or town know much more about him.

Now, recently, because of the war, we have corresponded with the Red Cross, the FBI, and the Army and Navy about physicians, and we cannot give them any information. All we can give them is the name and nothing more for the past twenty or thirty years. And so we thought that an annual registration on the doctor's birthday would be of some help. It might be of help in tracking down some physician who is practicing illegally. We do not know how many there are and you do not know because you have no means of ascertaining. If you had a list on your desk of registered physicians, you could readily tell who was not registered. It might be some help in tracking down these men who practice illegally in the Commonwealth. That is of some value, I think. We think it would be of value to the Society as it would enable it to know who is registered to practice. It is just a suggestion but, as Dr. Rushmore said last spring, we do not want to do anything that the Society does not want to have us do or does not like to have us do. We want to do whatever is most helpful. We are your agents. We, as members of your Society, wish to do what you would like to have us do. If you do not want the annual registration, we do not want it; if you do want it, we will help to get it for you. That is all.

Dr. Carl Bearse, Norfolk, thought this was an inappropriate time to bring up a matter of this kind. He moved that the motion be tabled. This motion was seconded by a councilor, and it was so ordered by vote of the Council.

At 2:15 p.m., Dr. Parkins moved that the meeting be adjourned. This motion was seconded by a councilor and it was so ordered by vote of the Council.

MICHAEL A. TIGHE, *Secretary*

APPENDIX NO. 1

ATTENDANCE

BARNSTABLE
W. D. Kinney

BERKSHIRE
I. S. F. Dodd
C. F. Kernan
C. T. Leslie
J. F. McLaughlin
P. J. Sullivan

BRISTOL NORTH
W. H. Allen
J. H. Brewster
R. M. Chambers
W. J. Morse, Jr.
W. M. Stobbs

BRISTOL SOUTH
G. W. Blood
R. B. Butler
E. D. Gardner
H. E. Perry
E. F. Shay
P. E. Truesdale
Henry Wardle

ESSEX NORTH
E. S. Bagnall
R. V. Baketel
J. T. Batal
N. F. DeCesare
E. H. Ganley
R. C. Hannigen
H. R. Kurth
P. J. Look
R. J. Neil
R. C. Norris
G. L. Richardson
F. W. Snow
C. F. Warren

ESSEX SOUTH
Bernard Appel
Loring Grimes
P. P. Johnson
A. E. Parkhurst
W. G. Phippen
E. D. Reynolds
H. D. Stebbins
P. E. Tivnan
J. W. Trask
C. F. Twomey

FRANKLIN
F. J. Barnard
A. W. Hayes
W. J. Pelletier

HAMPDEN
E. H. Allen
E. P. Bagg
W. C. Barnes
H. F. Byrnes
J. L. Chereskin
G. B. Corcoran
E. C. Dubois
Adolph Franz, Jr.
G. L. Gabler
P. E. Gear
G. D. Henderson
F. S. Hopkins
E. A. Knowlton
M. W. Pearson
A. G. Rice
G. L. Schadt

HAMPSHIRE
A. N. Ball
A. J. Bonneville
W. M. Dobson

MIDDLESEX EAST
I. H. Blaisdell
C. W. De Wolf
Richard Dutton
E. M. Halligan
R. W. Layton
M. J. Quinn
R. R. Stratton

MIDDLESEX NORTH
W. M. Collins
D. J. Ellison
A. R. Gardner
W. F. Ryan
M. A. Tighe

MIDDLESEX SOUTH
C. F. Atwood
E. W. Barron
W. B. Bartlett
Harris Bass
J. M. Baty
J. D. Bennett
E. H. Bigelow
G. F. H. Bowers
Madelaine R. Brown
R. W. Buck
E. J. Butler
J. F. Casey
B. F. Conley
H. F. Day
C. L. Derick
C. W. Finnerty
H. Q. Gallupe
Stanton Garfield
H. G. Giddings
J. L. Golden
A. D. Guthrie
Eliot Hubbard, Jr.
F. R. Jouett
A. A. Levi
A. N. Makechnie
Dudley Merrill
C. E. Mongan
J. P. Nelligan
Dwight O'Hara
Fabyan Packard
L. G. Paul
S. H. Remick
E. H. Robbins
M. J. Schlesinger
E. W. Small
A. B. Toppan
J. E. Vance
C. F. Walcott
Hovhannes Zovickian

NORFOLK
Carl Bearse
Arthur Berk
M. I. Berman
J. E. Burns
J. H. Carey
D. J. Collins
F. P. Denny
G. L. Doherty
Albert Ehrenfried
Susannah Friedman
J. B. Hall
H. B. Harris
R. J. Heffernan
P. J. Jakmauh
I. R. Jankelson
C. J. Kickham
E. L. Kickham
H. M. Landesman
C. M. Lydon
H. L. McCarthy
R. T. Monroe
F. J. Moran
Hyman Morrison
M. W. O'Connell
G. W. Papen
S. A. Robins
D. D. Scannell
J. A. Seth
Kathleyne S. Snow
J. W. Spellman
J. P. Treanor, Jr.
W. J. Walton
S. H. Weiner
N. A. Welch

NORFOLK SOUTH
D. B. Reardon

PLYMOUTH
G. A. Buckley
P. H. Leavitt
J. J. McNamara
G. A. Moore
E. L. Perry
W. H. Pulsifer
R. M. Smith
M. C. Sosman
E. F. Timmins
J. J. Todd
S. N. Vose
Conrad Wesselhoeft
C. F. Wilinsky

SUFFOLK
W. B. Breed
W. E. Browne
G. C. Caner
E. M. Chapman
David Cheever
Pasquale Costanza
N. W. Faxon
G. B. Fenwick
Jacob Fine
Reginald Fitz
Channing Frothingham
Joseph Garland
A. A. Hornor
H. A. Kelly
R. I. Lee
C. C. Lund
Donald Munro
H. L. Musgrave
H. F. Newton
F. R. Ober
F. W. O'Brien
J. P. O'Hare
L. E. Parkins
L. E. Phaneuf
Helen S. Pittman
W. H. Robey
H. F. Root

WORCESTER
C. R. Abbott
B. H. Alton
B. F. Andrews
A. W. Atwood
George Ballantyne
W. P. Bowers
P. H. Cook
G. A. Dix
J. J. Dumphy
John Fallon
L. M. Felton
E. R. Leib
L. P. Leland
W. F. Lynch
J. C. McCann
A. E. O'Connell
H. L. Paine
R. S. Perkins
O. H. Stansfield
R. J. Ward
R. P. Watkins

WORCESTER NORTH
E. A. Adams
H. D. Bone
C. B. Gay
G. P. Keaveny
F. A. Reynolds

APPENDIX NO. 2

REPORT OF THE COMMITTEE ON ETHICS AND DISCIPLINE

During the past four months, the committee has held two all-day meetings on June 30 and on September 15, with a special meeting on August 16. During this time, numerous cases have come to the attention of the committee. Some of these were of very minor importance and were settled by letter. Several others required considerable investigating, hearings being given to both complainant and defendant. These complaints were settled amicably by the committee.

A number of communications from laymen complaining of the amounts of doctors' charges, mostly for small amounts, have been received and have been answered invariably that it was not within the province of this committee to decide matters of professional fees, which should be settled satisfactorily between doctor and patient.

Three charges by laymen against doctors for alleged breach of ethics, after exhaustive investigation, were decided unanimously for the defendants.

There were three other cases of such a serious nature that a brief résumé at this time is justified.

Case 1. A charge of breach of ethics in an attempt to discredit and injure the professional reputation of some of his confreres was brought against a fellow. Accompanying this complaint were several items on which the complaint was based. Thorough investigation was given

to this charge and every possible avenue of approach was explored, but no actual proof which would stand the scrutiny of a board of trial or of a court of law could be verified, and the committee was forced, therefore, to place the case on file. The complainants were so notified.

Case 2. There was a complaint by two fellows against a third charging active attempts to belittle their reputations and their professional standing in the community by active participation in the preparation of and unfair and vicious testimony during a court case for malpractice. Following a period of investigation covering two months, including scrutiny of court records, hospital records and hearings given to both the complainants and the defendant, an overwhelming mass of proof was accumulated resulting in a unanimous vote by the committee of "guilty," and the fellow was requested to resign from the Society. His resignation was received and accepted.

Case 3. This case is the first of its kind that has been brought to the attention of the committee during the past eight years. A complaint was received from a layman, in good standing and of excellent reputation in the community in which he lives, against a fellow practicing in the same community, charging violation of Chapter III, Article I, Sections 1 and 3, of the *Principles of Medical Ethics* of the American Medical Association. It is not the duty of the Committee on Ethics and Discipline to intrude itself on the private life of any member. That is a matter between himself and his conscience and his self-respect. But when that private life becomes a public reproach on the Society sufficiently grave to be complained about by laymen, then it is our duty to investigate. Inquiries and conversations with the defendant and corroboratory evidence given unwillingly by his confreres, in writing, and the fact that on account of his action he was dropped from the staff of a hospital in high standing in his community, compelled the committee to acknowledge the truth of the allegation and to find the fellow guilty as charged. However, as the fellow later admitted his indiscretion and promised to change his manner of living, and also by reason of affidavits of his intimates that such an attempt was being made, the committee felt that an opportunity should be given him to rehabilitate himself, and the case was placed on file pending further complaints.

Every case heard has been settled only after the accumulation of evidence which we as a committee know would substantiate the committee's findings before a board of trial and, we believe likewise, before a court of law.

WILLIAM J. BRICKLEY,
ALLEN G. RICE,
FRED R. JOUETT,
ARCHIBALD R. GARDNER,
RALPH R. STRATTON, *Chairman*

APPENDIX NO. 3

SOME COMMENTS ON THE PROCEEDINGS OF THE MEETING OF THE HOUSE OF DELEGATES OF THE AMERICAN MEDICAL ASSOCIATION HELD IN CHICAGO, JUNE 7 TO JUNE 9, 1943

The House of Delegates was called to order promptly at 10 a.m., Monday morning, June 7, 1943. The report of the Committee on Credentials showed that 144 delegates were present. A supplementary report given on Tuesday morning, June 8, showed that 170 members of the House of Delegates had been registered. All states, all sections and three government services had complete registration. The only delegates not in attendance were those from Alaska, the Isthmian Canal Zone, the Philippines and Puerto Rico. This was a most remarkable record, showing the interest and sincerity of individual members. Rarely has there been shown so much interest, so much seriousness in conducting the proceedings of the House of Delegates as was shown at this meeting.

The whole atmosphere seemed to be surcharged with the importance of the business under consideration. The reference committees appointed by the Speaker were regionally well balanced. The hearings were exceptionally well attended. The attention of the Council of the Massachusetts Medical Society is especially called to the addresses of Dr. H. H. Shoulders, speaker of the House of Delegates, of President Frederick W. Rankin, of President-Elect James E. Paullin, of Surgeon General Norman T. Kirk, of George M. Morris, president of the American Bar Association, of Dr. J. C. Routley, secretary of the Canadian Medical Association, and Brigadier General David N. W. Grant.

General David N. W. Grant is a flight surgeon of the United States Army. On taking over the department of flight surgeons a year and a half ago, he found that there were in the Army 97 flight surgeons. Today there are 9300 Army flight surgeons. When we consider these figures, we are greatly astonished at the amount of work accomplished by General Grant.

It would seem as if it were the bounden duty of every member of this council to read these addresses carefully. In short, terse and plain language they contain the aims, the duties and the responsibilities of the American Medical Association. The inspiring address of the Speaker of the House, Dr. H. H. Shoulders, merits special attention.

The most important subject under discussion was the proposition that the American Medical Association establish in Washington, D. C., a council on medical care. Resolutions were presented from the state medical societies of Minnesota, Indiana, New Jersey, Nebraska, Oklahoma, and Ohio, and from the Section of Radiology, supporting such a general proposition. A proposal called for a council of nine members, from nine geographic subdivisions of the United States. Among the recommendations was one proposing the establishment and maintenance in Washington, D. C., of a full-time executive director, who would act as secretary of the council and whose duties would be specified by them. Another proposal suggested that such an executive director be a physician who has been actively engaged in the private practice of medicine for not less than five years during the previous ten years. Another proposal recommended that the council be further authorized to hire such legal and administrative help as it deemed necessary. Still another suggested that the Council on Medical Service submit a budget for its fiscal year to the Board of Trustees of the American Medical Association. All the resolutions asking for the establishment of a council on medical service were referred to the Committee on Legislation and Public Relations for consideration. At a stated time, this committee held a hearing on the subject. The hearing was very well attended by delegates to the session. All persons who wished to discuss the question of establishing a council on medical service were given time and ample opportunity to present their views.

The Reference Committee on Legislation and Public Relations reported as follows: "All the resolutions submitted as well as the opinions expressed at the open meeting of your reference committee have been given

full, earnest consideration. There appears to be one objective in all of them."

The reference committee reported in favor of such a council. Before this report could be enacted into a law of the Association, it was necessary for the Board of Trustees to consider the matter and give its approval. The Board of Trustees met with the Committee on Public Relations and recommended the creation of a Council on Medical Service and Public Relations.

It was finally determined after conferences and certain recommendations for change of by-laws that the Council on Medical Service and Public Relations be created by the House of Delegates of the American Medical Association. It was agreed that the membership of this council shall consist of six members, selected according to geographic distributions, and the president, the immediate past-president, the secretary and a member of the Board of Trustees of the American Medical Association. Their functions shall be as follows:

> The functions of the Council on Medical Service and Public Relations shall be (1) to make available facts, data and medical opinion with respect to timely and adequate rendition of medical care to the American people; (2) to inform constituent associations and component societies of proposed changes affecting medical care in the nation; (3) to inform constituent associations and component societies regarding the activities of the Council; (4) to investigate matters pertaining to the economic, social and similar aspects of medical care of all the people; (5) to study and suggest means for the distribution of the medical service to the public consistent with the principles adopted by the House of Delegates; (6) to develop and assist committees on medical service and public relations originating within the constituent associations and component societies of the American Medical Association. In the exercise of its functions this Council with the co-operation of the Board of Trustees, shall utilize the functions and personnel of the Bureau of Legal Medicine and Legislation, the Bureau of Medical Economics and the Department of Public Relations in the headquarters office.

The names of the following men were selected to act as the Council on Medical Service and Public Relations: Louis H. Bauer, chairman, Hampstead, New York; A. W. Adson, Rochester, Minnesota; John H. Fitzgibbon, Portland, Oregon; W. S. Leathers, Nashville, Tennessee; E. J. McCormick, Toledo, Ohio; James R. Mc Vay, Kansas City, Missouri; Olin West, Chicago, Illinois; Roger I. Lee, Boston, Massachusetts; James E. Paullin, Atlanta, Georgia; and Fred W. Rankin, Washington, D. C.

Your attention should also be called to the work of the Board of Trustees of the American Medical Association. The report of the Board covers 115 pages of the handbook which is a book distributed to the members of the House of Delegates as a guide. The main report is very exhaustive. It represents a prodigious amount of work. Besides this main report there was submitted to the House of Delegates, a supplementary report entitled *Supplementary Report of Board of Trustees Dealing with Report of Proceedings of the Joint Committee Meeting of National Hospital Associations and Representatives of the Board of Trustees of the American Medical Association.*

In reading these reports there is one thing to keep in mind constantly, namely, that the House of Delegates of the American Medical Association defines the policy of the Association and the Board of Trustees carries out this policy. It is not the purpose of your commentator to go into the details of the reports. Your commentator, however, would advise every member to read the reports and to study them carefully. The complete reports will be found in June 19, 1943, issue of the *Journal of the American Medical Association*, which also contains the report of the Council of Medical Education and Hospitals. A valued member of the latter council is Dr. Reginald Fitz, of the Massachusetts Medical Society.

One of the subjects treated by the Council of Medical Education and Hospitals is entitled "Essentials of an Acceptable School for Clinical Laboratory Technicians." Your commentator will close his comments on the accomplishment of the Board of Trustees by quoting the reference committee's remarks regarding the work of the Board of Trustees.

> Your reference committee is aware of frequent criticisms of the Board of Trustees because the Board does not do this or that, and, although it should be well known by the medical profession at large, it is worth repeating that the Board of Trustees is bound by the mandates of the House and the House is responsible for the Board's activities. Your reference committee feels that the House should express its appreciation of the tremendous amount of work carried on throughout the year by the Trustees, an amount of work which has been gradually increased by the war. It recommends, therefore, that the House express its heartfelt thanks to the members of the Board for their efficient work.

Remember also, we are all members of a very large and influential nonprofit educational institution. The membership is 122,741. Its net worth is $4,711,215.32. It has a payroll of over 500. It maintains suitable and comfortable headquarters, from which plant many publications are issued besides those of the *Journal of the American Medical Association* and *Hygeia.*

A pleasant and notable incident took place at the meeting in Chicago. A fellow-member of the Massachusetts Medical Society, Dr. Elliott P. Joslin, was honored with the bestowal of the Distinguished Service Award of the American Medical Association. The selection of Dr. Joslin as the recipient of the award gave joy and delight to every member of the Massachusetts Medical Society. The award consisted of a medal properly inscribed, which was formally presented to Dr. Joslin at the meeting of the House of Delegates on Tuesday evening, June 8. The recipients of former awards are as follows: Dr. Rudolph Matas, 1938; Dr. James B. Herrick, 1939; Dr. Chevalier Jackson, 1940; Dr. James Ewing, 1941; and Dr. Ludvig Hektoen, 1942.

The Massachusetts Delegates in attendance were as follows: David D. Scannell, Boston; Ernest L. Hunt, Worcester; Charles E. Mongan, Somerville; Walter G. Phippen, Salem; Allen G. Rice, Springfield; and Richard H. Miller, Boston. Dr. Walter G. Phippen served as a member of the Reference Committee on Medical Education. Dr. David D. Scannell served as a member of the Reference Committee on Reapportionment. Dr. Michael A. Tighe, secretary of the Massachusetts Medical Society, who was present as an observer at the meeting of the House of Delegates, was voted the privilege of attending the executive session of the House of Delegates.

Dr. Herman L. Kretschmer, of Chicago, was selected as president-elect. Dr. Kretschmer is not unfamiliar with the administration of the American Medical Association affairs as he served ten years as treasurer. He

comes well equipped assuming the responsibilities attached to the office of president-elect of the American Medical Association.

COMMENT

Your commentator wishes to bring the attention of the Council of the Massachusetts Medical Society to the great part that Massachusetts influence bears in the conduct of the affairs of the American Medical Association. The chairman of the Board of Trustees, Roger I. Lee, the president of the Massachusetts Medical Society, has an enormous responsibility. One cannot overestimate the demands on his time and on his strength which the heavy responsibilities of his office exact. I wish to testify that I think he is one of the ablest chairmen of the Board of Trustees that the American Medical Association has ever had. There is another member of the Massachusetts Medical Society who works very quietly and very effectively. The members of the American Medical Association need never worry concerning the kind and quality of medical service and medical education which is promoted by the American Medical Association while Dr. Reginald Fitz is a member of the Council of Medical Education and Hospitals.

Last but not least is the part that Dr. Frank H. Lahey has taken in the affairs of the Procurement and Assignment Service in bringing about the enlistment of 45,000 doctors in the American armed services.

CHARLES E. MONGAN, *Senior Delegate*

APPENDIX NO. 4

REPORT OF THE MASSACHUSETTS STATE COMMITTEE OF THE PROCUREMENT AND ASSIGNMENT SERVICE FOR PHYSICIANS

On August 26, the *New England Journal of Medicine* printed an editorial called "——or Else." Here, in bold-faced type, was stated that the armed forces need medical officers so urgently that in order to increase enrollments, a directive already had gone to the commanding officers of several Service Commands authorizing them, if necessary, to induct into service physicians up to forty-five years of age who had been declared available by the Procurement and Assignment Service. The editorial went on to warn physicians in this age group who had been declared available, and who had failed to offer their services, to apply for commissions at once. Unless they did this, it seemed probable that they might soon be inducted into the Army as privates, eventually to receive commissions of minimal rank rather than ones which took into consideration age and experience.

The justification for this editorial is now clear. The state director of Selective Service has recently informed your committee of two important directives under which he will be guided in the future. The War Manpower Commission has authorized Selective Service to induct "pre-Pearl Harbor fathers" after October 1, 1943, in the sequence of their order number and as fast as needed after the induction of single men and childless married men. The War Department has authorized the commanding generals of Service Commands to waive age limitations for induction in the case of physicians between the ages of thirty-eight and forty-five when they are declared available for military duty by the Procurement and Assignment Service and when waivers are requested by state directors of Selective Service.

These two statements make it plain that dependency need no longer play a part in determining Selective Service deferments for doctors and that age, also, within the limits specified, can be discounted. Thus Selective Service and Procurement and Assignment now appear to have considerably stronger authority over physicians than ever before.

As a result of this, the problem of the graduate of the substandard school promises to be more baffling than ever. Consider as a typical illustration the City of ——, which happens to have a population of about 110,000 people. In it are 70 doctors born between 1879 and 1898, all too old for military service. In addition there are 2 younger men who have been declared essential and 7 who have applied for commission and have been rejected on physical grounds. These 79 men are able to cover the medical needs of this city in a satisfactory manner, but in addition there are 6 graduates of standard schools who have been declared available without doing anything about it and 14 who are licensed to practice in Massachusetts but are ineligible for commission because they are foreigners or graduates of schools not recognized by the Surgeons General.

If the men who are graduates of standard schools are reported to Selective Service they may be discriminated against in favor of men whose competency is less certain. Heretofore the latter group has been protected on the ground that any doctor with a license to practice in Massachusetts was better than none. Now that doctors are liable to induction, the situation has changed. In future, to be as fair as possible, your committee proposes to report to Selective Service, when necessary, two groups of physicians declared available, one comprising physicians who have not applied for commissions though asked to do so, and the other, physicians ineligible for commission whose services are not essential to the health and welfare of the community. If any physicians must be inducted, both these categories should be subjected to equal scrutiny.

On August 26, there began what has been called the "third phase of procurement." This consists in the appraisal of men under forty-five years of age who are called essential. The supposition has been made that the longer the war lasts the greater is the likelihood that a number of doctors will be invalided out of the Army or Navy and that they may be able to resume work in the various communities to which they belong. As such men return, it may be possible, little by little, for them to replace men now held as essential.

The essential men, therefore, have been asked to apply for commissions and to have physical examinations by the Army or Navy so as to make it a matter of record that they are not objectors, that they have applied for commissions when asked to, and what the state of their physical fitness is. The directive regarding this matter says that *no such man will receive a commission until he has been declared available* by Procurement and Assignment, and Procurement and Assignment has been ordered not to declare any such man available until a satisfactory replacement for him has been found.

The Corps Area chairman and the state committee have agreed to accept as definition for the word "satisfactory" that used in the *Concise Oxford Dictionary* of 1931: "leaving no room for complaint, causing satisfaction, adequate."

A certain degree of suspicion has become manifest on the part of the essential men who so far have been approached. They appear to suspect that here is a trap to drive them into service by forcing as their replacements

physicians who cannot be called satisfactory under the definition described. Such a suspicion appears unfounded. Your committee believes that the War Manpower Commission intends to live up to its statement that no man called essential will be commissioned until he is declared available. He will not be declared available until, in fact, there has appeared to take his place, a replacement who can leave no room for complaint.

In the September 11 number of the *Journal of the American Medical Association* was described a plan which will go into effect in 1944 for the allocation of interns and residents in hospitals. Stated briefly, this plan proposes henceforward to have the internship last for nine months instead of a year, thus synchronizing it with the accelerated medical school program. Each state will be assigned a quota of interns and residents which will total about two thirds of the numbers recorded in 1940. Each hospital, also, will have an assigned quota, though in individual hospitals consideration will be given to obvious injustices which might occur with too arbitrary an application of the allocation plan. The basic principle of the plan is to devise a method of equalizing the distribution of interns and residents in our hospitals and to prevent their overconcentration in certain institutions.

That a certain number of resident and assistant resident physicians are necessary for the proper conducting of hospital services is recognized. Thus hospitals in the habit of employing resident physicians will be permitted to retain a certain number. In establishing the quotas for residents, one third of the interns beginning their services at each nine months may be retained for a second nine months' service as assistant resident physicians and half of that group may be retained for a third nine-month period to serve as residents. A man may leave one hospital at the end of his nine or eighteen months' service to go to another so that under this plan, free movement of young doctors will be encouraged within the limits of the quota for the state.

The exact details of the manner in which the plan is to operate in Massachusetts have not yet been clarified. It seems probable, however, that our large hospitals will be asked to yield approximately a third of the house staffs to which they are accustomed, and that some 75 young men will thereby become available to the small hospitals so badly needing them.

Up to the present time your committee has been more occupied with the procurement of physicians for the armed forces than in their assignment to civilian needs. The time has come, however, when the latter phase of the work has begun to receive an increasing amount of thought. Analyses have been made which serve to illustrate the present distribution of physicians in Massachusetts. The small cities and the less densely populated areas continue to be poor in physicians while the large cities still claim a relatively high concentration of medical talent. This finding is easily explainable, since areas of dense population, by necessity, are required to perform a type of medical work which requires much highly trained specialism and medical teamwork that is extremely complicated.

In spite of the number of physicians who have left practice, there so far has been very little complaint of medical shortage. Such complaints as have been received, on critical study, have depended almost invariably rather on a given physician's personal popularity with his patients than on his essentiality. There are still a number of physicians who can be spared without detriment to civilian care.

HOWARD M. CLUTE
EDWARD L. KICKHAM
DWIGHT O'HARA
WALTER H. PULSIFER
B. P. SWEENEY
REGINALD FITZ, *Chairman*

APPENDIX NO. 5

REPORT OF THE WAR PARTICIPATION COMMITTEE

The first part of this report is one of progress. On May 24, 1943, the Council passed the following resolution:

> WHEREAS, the War Manpower Commission has announced that there is immediate need for more physicians to serve as medical officers in the armed forces of the United States; and
>
> WHEREAS, the War Manpower Commission has announced that Massachusetts should supply more medical officers than have so far been commissioned from the state; and
>
> WHEREAS, a plan has been suggested by the War Manpower Commission through which the enrollment of medical officers may be accelerated with the help of county or district medical societies in certain states; therefore be it
>
> RESOLVED, that Reviewing Committees be established by each District Society, the members of which shall be nominated by the District Society Presidents and appointed by the President of the Massachusetts Medical Society. Such committees shall serve for the general purposes outlined in this report.

Promptly on the appointment of the district reviewing committees by the President, the names of Massachusetts physicians considered available for military service by the State Committee on Procurement and Assignment were sent by this committee to the proper district committees together with pertinent information concerning each. The decision on each man by the local committees was thereupon sent to the State Committee on Procurement and Assignment. The work of the reviewing committees was in most instances conscientiously carried out. Much credit is due these men, and this has been duly bestowed by your chairman on the direction of the committee at its meeting of September 22, 1943, by letters containing a general report and an appreciation of their prompt and conscientious action.

The figures to date are as follows:

Names submitted to the Reviewing Committees		321
Names have been reported (23 outstanding)		298
Available	102	
Already in service	31	
Application for commission already submitted	32	
Essential	29	
Not available	104	
Graduate substandard school	21	
Sociologic reasons	17	
Rejected by Army	14	
Unable to locate by mail or phone	16	
Over 45 years old	5	

Not a citizen	7
Osteopath	6
Moved out of state	8
Intern	1
Refused to apply	2
Dead	1
Out on bail	1
No reason given	5

In accordance with instructions from the committee at its meeting on July 28, 1943, your chairman requested in writing from Dr. Reginald Fitz, state chairman of Procurement and Assignment, an appraisal of the results of the activities of the reviewing committees. Dr. Fitz was not able to be more specific than is indicated in the following paragraphs of his reply:

> A number of men by the time they were asked to appear for review had already applied for commissions and several had already gone into uniform and left. Happenings of this sort were inevitable because the names of men referred to the reviewing committees were already declared available, and many had accepted their classification somewhat slowly, but nevertheless surely. A second factor that has made the work of the reviewing committees difficult to analyze is that since all the names submitted had been declared available, the Army or Navy were applying pressure on many of the men at the same time as they were reviewed by the committees. The combination of all this pressure, however, has seemed to yield results, for both Army and Navy procurement offices inform me that the stream of applicants continues, although neither service can state with any assurance that there has been any sharp rise in the number of applicants since the reviewing committees were established. . . . I repeat, however, that these committees have been helpful. It seems to me that their chief contribution has been to let a reluctant doctor in any community know that a larger group than the Procurement and Assignment Service, plus the Army or Navy recruiting offices, realize that he has been declared available. This fact in itself has tended to stir up a favorable opinion toward making doctors take the word "available" more seriously than heretofore. To this must be added the constant appeal in medical journals and newspapers of the need for more medical officers in the large-scale offensive which seems steadily more imminent.

A complete copy of this letter was forwarded to the chairman of each local committee along with the above-mentioned word of appreciation.

The plan of the staff of the Beth Israel Hospital to care for the practice of those of their number who have entered the United States Service was referred to this committee and came under discussion at its meeting of July 28, 1943. The committee expressed its sympathy with the ideology involved but did not recommend approval by the Society of the plan as outlined in the protocol.

* * *

The second part of this report concerns itself with the future functions of the Committee on War Participation.

In a letter from Walter F. Donaldson, chairman of the National Committee on War Participation of the American Medical Association, various possible functions were considered, ranging from the sending of remembrances to fellow members in the services to active cooperation with Civilian Defense organizations in each community.

Your committee considered carefully each of these suggestions and noted that the Massachusetts Medical Society is attacking many of the important problems posed in already organized committees, such as the Committee on Industrial Health, the Committee to Aid the District Rationing Administrator, and the Committee concerned with Prepayment Medical-Care Costs Insurance.

At our last meeting on September 22, 1943, there was much discussion as to what the committee should properly interest itself in now that the bulk of the reviewing has been completed. Many possible functions were considered, the most important being that of relocation of physicians to meet local community needs. It seemed to us that this and other complicated matters needed more consideration before a definite approach to them could be made — also that the influence of the committee should be broadened and decentralized so as to be more effective in local matters.

We, therefore, recommend that the present reviewing committees in the several Districts be not discharged, but be retained with the same personnel and organization (chairmen and secretaries) as district committees on war participation, subcommittees, so to speak, of this committee. We also recommend that an appropriation of $300 be made to this committee for past and future expenses, largely clerical, from the time of its appointment to January 1, 1944.

CARL BEARSE
REGINALD FITZ
DWIGHT O'HARA
WILLIAM B. BREED, *Chairman*
RALPH R. STRATTON, *Co-Chairman*
MICHAEL A. TIGHE, *Secretary*

APPENDIX NO. 6

REPORT OF PROGRESS BY THE POSTWAR LOAN FUND COMMITTEE

The Postwar Loan Fund Committee was organized on June 16, 1943, with fifteen members appointed by the president, Dr. Roger I. Lee.

The second meeting of the committee of the whole was held on Wednesday, August 11, 1943, at 8 Fenway, at which time the reports of the five subcommittees appointed by the chairman to study certain phases of this problem were read by the chairman of each subcommittee and discussed by all members of the committee of the whole. This is a report of progress of the committee of the whole.

The first subcommittee (Dr. Peirce H. Leavitt, chairman) studied the following questions:

(1) Amount of loan to be granted.
(2) Whether or not interest is to be charged.
(3) Whether or not endorsers will be necessary.
(4) Length of time the loan may run.

The committee reported that it believes that the amount must, of course, be uncertain, but would depend on two factors: the amount of money raised by the Society and the need of the applicant. The committee expressed the opinion that just enough interest to remind the applicant that he had a loan and to cover the carrying charge should be collected — this interest not to exceed 2 per cent. The committee stated that in its opinion no endorsers

should be asked from members of the Society, and further stated that the length of time the loan may run should be within a two-year period. The committee of the whole, after discussing this subcommittee's report, accepted these conclusions.

The second subcommittee (Dr. Walter G. Phippen, chairman) then reported on the question studied by them:

(1) Eligibility of persons to borrow money from the fund.

(2) Whether or not physicians other than members of the Massachusetts Medical Society at the time of entering the armed services should be permitted to borrow from the fund.

The committee reported that it believed that only men who were members of the Massachusetts Medical Society when they entered the armed forces should be permitted to borrow from the fund. None of the members believed that the fund should be open to all physicians in Massachusetts. The committee of the whole discussed this report, and it was approved in principle.

The third subcommittee (Dr. Charles Wilinsky, chairman) considered the question whether the fund should be raised by:

(1) Increasing dues.

(2) Assessing members $10 or more for one year.

(3) Assessing members $10 or more over a period of three to five years.

The committee reported as follows:

> It is our considered opinion that these funds should be raised not by increasing the dues, but rather by an annual assessment of $10 for the duration of the war, unless otherwise modified by future action of the Council.

The committee reported that the present by-laws of the Society make provision for such assessments and authorize the Treasurer to collect them. The report of this subcommittee was considered at great length by the committee of the whole, and the report was accepted in principle.

The fourth subcommittee (Dr. Herbert L. Lombard, chairman) reported on how best to inform the members of the Society in the armed forces of the availability of this fund. The committee reported as follows:

> We unanimously agree on three points:
>
> Information should be printed in the *New England Journal of Medicine*. There should also appear in a box on the cover of the *Journal* an announcement calling the article on the inside page to the attention of members.
>
> Form letters should be sent to men in the armed services notifying them of this action by the Society.
>
> Form letters should be sent to other members of the Society with the annual bills for dues, stating the availability of these loans.

This report was also accepted in principle by the committee of the whole after considerable discussion.

The fifth subcommittee (Dr. George Leonard Schadt, chairman) made a report on the question concerning the relation of the individual county district societies to the Society in developing and making the Postwar Loan Fund workable. The subcommittee believed that the fund should be administered from the headquarters of the Massachusetts Medical Society, rather than from the district societies, so that no member would be embarrassed in going to his district society and asking for a loan. It was also thought that a member desiring a loan would be more apt to ask for it if it were done through the headquarters of the Society. This question was also discussed at length and agreed to in principle by the committee of the whole.

GEORGE LEONARD SCHADT, *Chairman*

APPENDIX NO. 7

MASSACHUSETTS MEDICAL SERVICE REPORT

This presentation is an informal report of progress to bring you information concerning the present status of Massachusetts Medical Service. Your corporation has been satisfactorily established, and active enrollment of subscribers is proceeding. Doubtless you have noted the excellent publicity procured for the Blue Shield by our Blue Cross associates, as they celebrated their own sixth birthday recently.

ENROLLMENT FIGURES

At the time of the last report in June, there was an enrollment of only about 2000 subscribers in the Blue Shield. This represented the culmination of six months' effort in which most of the work was preliminary groundbreaking efforts in the industries. As a consequence of this preliminary groundwork, recent months have witnessed an increasing enrollment which promises a total subscription of about 10,000 members at the completion of our first year in January, 1944. Under the present arrangement with Blue Cross, each salesman is held responsible for a quota of 200 Blue Shield subscribers as a monthly average. The Blue Cross quota for each salesman is 500 subscriptions. The possible enrollments on this basis are 13,000 at the end of the first year. Our experience to date indicates that we may fall somewhat short of this objective — 10,000 or somewhat over it, depending on prospective enrollments in one large company.

This first year experience compares favorably with the results obtained in other states with the exception of Michigan. However, the results obtained in Michigan must be regarded as anomalous and not related to the realities of experience in the bulk of the states where there are no massive industrial units ready to supply subscribers in the mass of 100,000 or over. It appears safe to assume now that the industrial pattern in Michigan is unique, and is largely responsible for the rapid expansion of Michigan Medical Service, and that no other state medical organizations are likely to encounter a pattern which will assure any such result. A state such as Massachusetts with a myriad of small or moderate-sized industrial units is going to encounter hard digging and slower growth. With reference to other states having medical society prepayment programs, Colorado enrolled somewhat less than 10,000 in the first year, but feels that further expansion is impeded by the fact that it cannot, under the law, sell the overincome group, as the Massachusetts Medical Service is empowered to do; Pennsylvania in about three years has enrolled approximately 10,000 subscribers; New Jersey with a complete hospital medical-surgical contract has enrolled somewhat less than 10,000 subscribers. This last result may indicate, from

our contrasting experience, that complete hospital coverage is not necessarily more attractive to the subscribing public than a surgical-obstetric contract such as Massachusetts offers. Significantly, no major group is now offering to the public a complete comprehensive medical care contract in and out of the hospital, as its basic policy.

ENROLLMENT PRACTICES

A brief statement regarding enrollment practices should be made because of its important bearing on the rate of growth of our corporation. Sale of contract, as in Blue Cross, is of necessity offered to groups of persons previously organized for nonmedical reasons. The practice is to require a certain percentage of any group to enroll before their acceptance as a subscribing group. The average requirement in the several state plans is 50 per cent of any group. Michigan requires 75 per cent. At a recent meeting of the medical service plans, an effort was made to extract the rationale for such high requirements from the various groups. There seemed to be no satisfactory account from any group for their percentage requirements. It actually appears possible that Michigan's 75 per cent rate (an impossibly restrictive requirement in most states) was imposed to delay enrollments until administrative problems were resolved. A second important observation was that all executives, when directly questioned, felt that some relaxation from rigid requirements could be made with reference to seasoning of a group by prior subscription to Blue Cross or a commercial carrier. However there were no specific recommendations, and suggestions relative to seasoning of groups was distinctly nebulous.

Consideration of these two facts led to our liberalization of Blue Shield enrollment requirements in Massachusetts with reference to seasoning of a group by a prior Blue Cross subscription. There was a large body of potential subscribers to Blue Shield (500,000) who were seasoned to varying extents (one to five years) by prior Blue Cross contracts. The experience of Blue Cross with regard to stabilization of the exposure in a given group is that after three years the hospital utilization, as measured by the loss ratio, can be fairly accurately measured. Loss ratio means the number of cents out of each dollar paid in as premiums by the insuring group, which has to be paid out for hospital care in a given year. The loss ratio was quite variable from group to group. It varied from a favorable figure of 60 cents or less in a group showing an acceptable rate of hospitalization, to 80 cents or more in a group with an excessive utilization record. Satisfactory seasoning or stabilization of a group was not achieved until after three years of insurance. Two important factors which influenced the loss ratio figure of a given group were the average health of the group, and the cultural level of the group. The lower the health standard or the higher the cultural level of a group, the higher the rate of utilization of a contract, and the higher the loss ratio (cents out of a dollar paid for hospital costs). The reverse also held true; the higher the health standard or the lower the cultural level, the lower the loss ratio, and the more satisfactory the financial experience with the group. With all these factors (seasoning, loss ratio, health and cultural levels) rationally synthesized, it seemed reasonable to adjust the percentage requirements for enrollment according to the prospective experience with a given group. Our completely satisfactory financial experience to date seems to indicate the basic soundness of assumptions derived from the above considerations. Following are the assumptions:

(1) Any group seasoned by Blue Cross for a three-year period or over, and having a satisfactory experience as indicated by a loss ratio of not over 75 per cent, may be accepted on any percentage basis.

(2) Any group seasoned for two years with a loss ratio of not over 75 per cent, may with due consideration of health and cultural levels be enrolled on a 20 to 30 per cent basis.

(3) Any group seasoned for eighteen months with a loss ratio of not over 80 per cent may, with due consideration of health and cultural levels, be enrolled on a 40 per cent basis. If a group is deficient in any respect, the requirement should be 50 per cent.

(4) Failure to procure an adequate percentage in any industrial group could be safely circumvented if 75 per cent of the active Blue Cross subscribers sought enrollment.

(5) Any large industrial group (over 500 workers) that is enrolled as a new group will be enrolled on the same base as for Blue Cross (50 per cent) unless there are sound actuarial reasons for relaxing the requirements.

(6) With seasoned small groups (less than 10 persons), whether or not a satisfactory percentage participation is procured, will be left to the experienced judgment of Blue Cross executives who are familiar with the group as a risk.

FINANCIAL STATUS

Two sets of figures outlining our relative financial status are presented. The first figures represent an estimate at the end of the first six months' period, when subscriptions had not increased significantly; the second set of figures represent what should be our estimated status after the first year is completed in January, 1944, with a probable subscription list of 10,000. These figures indicate that by January we will be operating satisfactorily in the black; we shall have met the 25 per cent reserve requirement of the Commissioner of Insurance; we shall have ample reserves to take up the second year's load of obstetrics and tonsillectomy in children due on all contracts in force for one year; we shall (with an actual loss ratio of 25 per cent and an estimated loss ratio of 35 per cent) establish a condition wherein during the second year we can retire the carried-over organizational expense of $4000, and create a reserve which will lead toward increasing benefits. On this basis none of the $25,000 so generously voted by the Council will have been used. Furthermore, with this satisfactory background all payments to the physicians for services rendered under the contract will have been made in full as per the agreed fee schedule. This gives Massachusetts the unique experience of organizing, establishing and operating for its first year a prepaid medical-care program and doing it completely on the black side of the ledger, with unquestionably ample reserves in the process of building. These experiences are significant for those state groups which cannot safely anticipate the huge enrollments of Michigan Medical Service. These results have guaranteed to us the continued full support of the medical profession, without evidence of significant dissension, and the friendliest and most

effective working relations with the Blue Cross group. It bears out the assumption that a 10,000 subscription list carried on the basis of adequate premium rates, and proper working relation with the Blue Cross group, can definitely finance itself toward future expansion.

TABLE 1. *Profit and Loss Statement of Massachusetts Medical Service for the Period Ending July 31, 1943.*

Earned subscriber payments			$6,833.26
Surgical expenses:			
Payments made to or provided for doctors		$2,995.00	
Operating expenses:			
Printing and stationery	$3,279.94		
Books, newspapers and periodicals	687.25		
Publicity	529.41		
Insurance and bonding	200.00		
Conference expense	192.96		
Home office travel	117.36		
Dues and subscriptions	25.00		
Miscellaneous	7.25		
Expenses paid by Massachusetts Hospital Service, Inc. (1943)	3,275.60		
		8,314.77	
Total expenses			11,309.77
Net loss			$4,476.51

Table 1 gives the figures of a profit-and-loss statement as estimated for July 31, 1943. The earnings from premiums on sold subscriptions was $6833.26. The total of payments to doctors and operating expenses was $11,309.77. The net loss was $4476.51, or but little more than the initial expense for organization, which has been carried forward on the books to be paid off when our reserves accumulate. This means that in this very early period with restricted sales and large nonrecurring expenses the books balanced themselves except for the early organizational expense that is being carried along.

TABLE 2. *Estimated Financial Status of Massachusetts Medical Service as of January, 1944.*

Estimated income	$30,000
Operating expense	$11,000
Payments to doctors	10,000
Premium tax (1 per cent)	300
Total estimated expense	$21,300
Reserve requirement (25 per cent)	7,500
Total estimated financial requirements	$28,800
BALANCED STATEMENT	
Income	$30,000
Expense	28,800
Balance	$1,200
Organizational deficit on books	$4,476.51
Surplus (if reserve not applicable till 1944)	$8,700

Table 2 attempts to estimate our probable status as of January, 1944, when it appears certain our enrollment will exceed 10,000 subscribers. The total income should be $30,000. The total financial outlay for operating expenses, payments to doctors, tax premium and the reserve requirement of 25 per cent should be about $28,800. This would leave a balance of $1200 (but still carrying the organizational cost of over $4000 on the books). This means that very soon in the following year this initial cost can be retired, and a reserve created. When our cost for tonsillectomies and obstetrics in the second year is measured, and when the reserve for late reported cases can be determined and established, then we can accurately find out the rate of accumulation of a reserve and plan safely for our second contract of complete medical care in the hospital.

Below is a figure of $8700, which may represent our available reserve (exclusive of organizational costs) if, as implied by the Insurance Department, we may not be required to set up the 25 per cent reserve until the second year of operation. Under such circumstances we could now retire our outstanding organizational expense and have an estimated surplus at the first of the year of nearly $5000.

With reference to the loss ratio (the number of cents out of each dollar paid in as premiums by the insuring group, which has to be paid out for hospital care in a given year), it is running at present at the low figure of 25 per cent, with an estimated real loss ratio on receipt of slow reports of 35 per cent. This will rise in the second year when the cost of obstetrics and tonsillectomy care in children has to be met.

Our mid-year cost of administration is 50 per cent, and with the accumulation of premiums and dilution of nonrecurrent initial expenses should drop to about 15 or 20 per cent for the year. With a combined loss ratio and running expense of only 48 to 53 per cent out of a possible 100 per cent, we are in an excellent position to absorb the second year cost of obstetrics and tonsillectomies, and create a reserve to meet our obligation of providing complete hospital medical-care protection at the earliest feasible date.

For this hopeful outlook we are indebted to the profession for its kind support, and its confidence that our initial approach to the eventually complete program is sound; and to the co-operative support and sympathy of the Blue Cross organization which, by contractural arrangement, is handling the sales and administrative end of our project. The patience and forbearance of both groups have spared us many difficult problems which have arisen in other sections of the country. For this we may be properly grateful.

NEW HAMPSHIRE MEDICAL SOCIETY

PROCEEDINGS OF THE ONE HUNDRED AND FIFTY-SECOND ANNUAL MEETING

May 11, 1943

THE scientific session of the New Hampshire Medical Society was opened at the Hotel Carpenter, Manchester, at nine-thirty o'clock in the morning, with President Timothy F. Rock presiding.

The first paper of the morning was one by Drs. John P. Bowler and Scott Pedley, of Hanover, on the subject, "Carcinoma of the Prostate and its Endocrine Relationships." The next paper was by Dr. Oliver Cope of Boston, being entitled "The Treatment of Burns." The last paper of the morning was by Dr. Roger I. Lee, of Boston, on "Geriatrics: The medical care of the elderly."

The afternoon session convened at two o'clock, with President Rock presiding.

Dr. Leonard B. Morrill, of Centre Harbor, was awarded a gold medal for membership of fifty years in the Society; he spoke as follows:

> I want to thank you for this medal, and for the most wonderful association in the world — the New Hampshire Medical Society. Thank you very much.

Dr. James W. Jameson, of Concord, was presented as president-elect, and spoke as follows:

> I wish to express my gratitude and appreciation for this honor, and I can assure you that I will do what I can for the interests of the New Hampshire Medical Society, and also for the medical profession in the State of New Hampshire.

Dr. Samuel T. Ladd then presented the report of the Trustees:

FINANCIAL REPORT OF THE TRUSTEES OF THE NEW HAMPSHIRE MEDICAL SOCIETY FOR THE YEAR ENDING DECEMBER 31, 1942

Receipts

Interest on various deposits, other than Benevolence Fund	$202.09

Expenditures

Expenses of Society as voted	1,100.00
Pray and Burnham prizes	150.00
Total expenditures	$1,250.00
Decrease in funds, other than Benevolence Fund	1,047.91

GENERAL FUND

Deposits: New Hampshire Savings Bank	$3,771.97
Portsmouth Trust and Guarantee Company	2,083.41
Nashua Trust Company	225.44
United States Defense Bonds, Series G	3,000.00
	$9,080.82

BARTLETT FUND

Deposits: Portsmouth Savings Bank ($352.11 of this is a permanent fund, the income to be "expended only for the benefit of medical science, as may be directed by vote of this society")	$2,784.23
United States Defense Bonds, Series G	2,000.00
	$4,784.23

PRAY FUND

Deposits: Strafford Savings Bank ($1000 of this is a permanent fund, the income to be expended only for prize essays)	$229.91
United States Defense Bonds, Series G	1,000.00
	$1,229.91

BURNHAM FUND

Deposits: New Hampshire Savings Bank ($1140 of this is a permanent fund, the income to be expended only for prize essays)	$1,099.82
United States Defense Bonds, Series G	1,000.00
	$2,099.82

BENEVOLENCE FUND

Deposits: New Hampshire Savings Bank ($394.50 of this is accrued income available for the purposes of the fund)	$2,032.19
United States Defense Bonds, Series G	3,000.00
	$5,032.19

A prize of $100 was awarded for a paper entitled "Pathology, Clinical Manifestations and Treatment of Lesions of the Intervertebral Disks" by "R. Thritis," pseudonym for Dr. Albert Oppenheimer, of Laconia, and also a prize of $50 for a paper entitled "A Summarizing Review of Coexisting Intrauterine and Extrauterine Pregnancies, with a Report of One Original Case" by "Bruce King," pseudonym for Dr. Samuel J. King of Farmington.

It is expected that a prize will be offered in 1943–1944, and notice will be sent to members of the Society in due course.

Correction of Trustees' Report of 1942: The fifth set of figures at the right-hand edge in this report should read "$782.88" instead of "$782.78."

The accounts of the Treasurer have been examined and found correctly cast and properly vouched.

SAMUEL T. LADD
CLARENCE O. COBURN
FREDERIC P. LORD

The first paper of the afternoon session was entitled "Civilian Medical Defense and its Adaptation to Peacetime Civil Life," by Dr. A. William Reggio, of Boston.

The meeting was concluded by a paper, "Female Sex Hormone Therapy," by Dr. George Van S. Smith, of Boston.

CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL

Weekly Clinicopathological Exercises

FOUNDED BY RICHARD C. CABOT

TRACY B. MALLORY, M.D., *Editor**

BENJAMIN CASTLEMAN, M.D., *Acting Editor*

EDITH E. PARRIS, *Assistant Editor*

CASE 29471

PRESENTATION OF CASE

A seventeen-year-old housewife entered the hospital because of pain and swelling of the dorsum of the right hand.

About four months before entry, two weeks after hitting her hand on a door casing, the patient noticed swelling and aching in the dorsum of the right hand in the region of the distal portion of the middle metacarpal bone. The swelling increased until it was the size of a small walnut. The pain varied but often the throbbing and ache involved the entire hand, elbow and shoulder. About two months before admission she was seen by her family physician who incised the mass but was unable to obtain any pus. The incision apparently healed but the lesion increased in size, at first rapidly, but later slowly.

An x-ray film of the right hand about three weeks prior to entry showed a destructive lesion measuring 3.5 by 2 cm. in the distal portion of the third metacarpal (Fig. 1). This appeared to destroy and expand the shaft of the bone and to extend to the head of the metacarpal. In the anteroposterior view, the outlines appeared clear; but in the lateral view the outlines were not definite. Fine trabeculae were seen through the lesion, and there was a small amount of periosteal reaction along the anterior and lateral aspects of the shaft. The patient had lost 17 pounds during the preceding two months. There was no fever, swelling in the elbow or pain in the other bones, joints or muscles. Her general health had otherwise been excellent.

Physical examination showed a well-developed and well-nourished girl in no distress. Examination of the heart, lungs and abdomen was negative. Over the dorsum of the right hand was a hard, nontender mass, about 5 cm. in diameter, firmly attached to the underlying structures, but not to the overlying skin. The mass was situated near the head of the middle metacarpal bone. The extensor tendons were apparently not involved.

The blood pressure was 112 systolic, 70 diastolic. The temperature was 99.6°F., the pulse 86, and the respirations 22.

Examination of the blood showed a red-cell count of 4,060,000, with 80 per cent hemoglobin. The white-cell count was 9300, with 73 per cent neutrophils. A blood Hinton test was negative. The blood calcium was 10.9 mg. per 100 cc., the phosphorus 3.6 mg., the phosphatase 4.6 Bodansky units. A repeat x-ray examination, three weeks after the first one, showed a definite increase in the size of the lesion. The majority of the bony trabeculations had disappeared. No evidence of metastases was seen in the chest.

On the fourth hospital day an operation was performed.

DIFFERENTIAL DIAGNOSIS

DR. CHANNING C. SIMMONS: We have here a young woman with a painful tumor in the back of the hand following trauma. I assume that the x-ray films of the other bones and of the chest were negative. According to these x-ray films the tumor is in the distal end of the third middle metacarpal bone. It is expansile with a relatively sharply marked outline and with some periosteitis, but at the point where it joins the shaft, the bone has a moth-eaten appearance.

We have as usual the same three general groups of conditions as possibilities for diagnosis: first, an inflammatory condition, such as syphilis, tuberculosis, osteomyelitis or sarcoid; second, a generalized bone disease, such as osteitis fibrosa, fibrous dysplasia or one of many others — a congenital or possibly traumatic condition; and third, a tumor either primary, benign or malignant, or metastatic.

I shall assume from the history and the blood and physical examinations that the patient had no generalized bone disease such as osteitis fibrosa cystica. Presumably this was not congenital because she had no previous history of deformity of any sort. If it were due to trauma one would expect a history of swelling and pain that diminished in time and did not recur. In regard to tumor, there is no evidence so far as I can see of a primary malignant focus in this woman. It is true that metastases are likely to take place at a point on the body that has been traumatized. Presumably a hematoma following the trauma makes a good bed in which the metastatic cells may grow. Primary malignant tumors of the phalanges are almost unknown, and tumors of the metacarpal bones are rare.

*On leave of absence.

The common benign tumors in this situation are chondroma and giant-cell tumor. A benign tumor unless complicated by fracture is rarely painful; a malignant tumor is painful. One would expect that a benign tumor of the chondroma type would be more clear cut in the x-ray film and would not present a moth-eaten appearance of the shaft. The same remark is true for giant-cell tumor. A malignant tumor, osteogenic sarcoma, in this site is rare, as is also Ewing's sarcoma. I have seen both these tumors in metacarpal bones, but the x-ray films in this case are not characteristic of either of them. The films of a Ewing's sarcoma may closely resemble those of a giant-cell tumor. In one such case, presented at a conference last winter, the lesion was located at the lower end of the fibula. Osteogenic sarcoma cannot be excluded. With an essentially normal temperature and white-cell count, there was obviously no inflammation. The fact that the physician did not obtain pus when he operated is a further indication that it was not inflammatory.

My diagnosis is either giant-cell tumor or chondroma, with fracture, which would cause pain; or, possibly, a malignant tumor of the metacarpal bone, either osteogenic or Ewing's sarcoma. I do not see how a definite diagnosis could have been made without a biopsy. The physical examination is incomplete, and no mention is made of pigmented areas in the skin.

FIGURE 1. *Roentgenogram of Hand.*

DR. BENJAMIN CASTLEMAN: None were found.

DR. MILFORD SCHULZ: One wonders about the change in character of the lesion, and the fact that the shaft seems to project into the tumor mass. I think that that was described by Dr. E. A. Codman in giant-cell tumors, was it not?

DR. SIMMONS: Yes, but they usually have a clean-cut saucer-shaped depression where the tumor joins the medulla. Pain unrelieved by rest is suggestive of either an inflammatory condition, fracture or a malignant tumor.

DR. SCHULZ: The point was raised about malignant degeneration of a chondroma because of the change between the two x-ray examinations.

DR. ERNEST M. DALAND: Dr. Codman has described this appearance and it has been present

in a number of cases that I have operated on. There usually is a saucer-shaped depression in the shaft proximal to the lesion, which is quite characteristic of giant-cell tumor.

DR. CASTLEMAN: Is that present in this case?

DR. SCHULZ: Yes, but it is exaggerated.

DR. SIMMONS: The point is that the shaft is usually not moth-eaten.

DR. SCHULZ: Could that not be due to the fact that we are looking at it tangentially. I do not see it in the lateral view.

DR. CASTLEMAN: What would you do about this, Dr. Simmons?

DR. SIMMONS: I should explore the tumor.

DR. CASTLEMAN: Would you do a biopsy, or take it all out?

DR. SIMMONS: That depends on what was found. If it were a benign tumor, I should be inclined to remove all the bone and amputate the finger. I do not believe that excision of a tumor as large as this will give a good functional result in later life.

CLINICAL DIAGNOSIS

Chondroma of metacarpal bone?

DR. SIMMONS'S DIAGNOSIS

Benign giant-cell tumor or chondroma.

ANATOMICAL DIAGNOSIS

Benign giant-cell tumor.

PATHOLOGICAL DISCUSSION

DR. CASTLEMAN: The surgeon removed the upper four fifths of the metacarpal bone. The finger was not amputated. When opened the lesion proved to be a benign giant-cell tumor filled with hemorrhagic yellowish material and fluid blood.

DR. WALTER BAUER: Benign?

DR. CASTLEMAN: Yes. The stroma was a little more active than that of the average giant-cell tumor. It might be classified Grade II according to Jaffe's grading.* In this group there is some tendency to recur and therefore resection of the tumor rather than curettage is the treatment of choice.

CASE 29472

PRESENTATION OF CASE

An eighteen-year-old schoolgirl entered the hospital because of pain in the right knee of two weeks' duration.

*Jaffe, H. L., Lichtenstein, L., and Portis, R. B. Giant cell tumor of bone: its pathologic appearance, gradings, supposed variants and treatment. *Arch. Path.* 30:993-1031, 1940.

Two weeks before entry, four days after having been horseback riding, the patient noticed slight swelling and pain in the medial aspect of the right knee and exaggerated pain on full flexion. The pain kept her partially awake for several nights. A few days before entry x-ray films taken at an outside hospital were said to have shown a shadow in the right knee. The symptoms regressed and for the week prior to admission she was asymptomatic. There was no fever, chills, sore throat, pain in other joints, muscles or bones or other history of trauma.

No history of childhood diseases was obtained, but the patient was said to have had "growing pains" in her legs.

Physical examination showed a well-developed and well-nourished girl. There was a questionable slight thickening around the medial aspect of the right knee, without any limitation of motion or tenderness. No other abnormal findings were present.

The blood pressure was 120 systolic, 80 diastolic. The temperature was 98.2°F., the pulse 60, and the respirations 16.

Examination of the blood showed a red-cell count of 4,020,000, with a hemoglobin of 13.8 gm., and a white-cell count of 7100, with 64 per cent neutrophils. The urine was negative. The blood sedimentation rate was normal. A blood Hinton test was negative.

X-ray examination of the knee showed a 5-by-2.5-by-2.5-cm. area of rarefaction in the posteromedial portion of the lower shaft of the right femur just above the internal condyle (Fig. 1). Its margins were sharply defined and rather dense. There was a small amount of dense periosteal proliferation over it. No definite soft-tissue mass was seen. The remainder of the bone displayed slight decalcification. The skull, hands, feet and the right humerus were normal. There was slight decalcification of the bones of the right foot. The blood calcium was 12 mg. per 100 cc., the phosphorus 4.7 mg., and the phosphatase 2.7 Bodansky units. One observer noted two areas of brown pigmentation over the left thigh and one on the right shoulder.

On the third hospital day an operation was performed.

DIFFERENTIAL DIAGNOSIS

DR. ERNEST M. DALAND: The physical examination and the history seem to be entirely negative. The laboratory examination is essentially negative, except for slight elevation of the blood calcium. The problem comes down to one of interpretation of the x-ray findings. We have here an oval-shaped defect above the epiphyseal line that extends

down quite close to the epiphyseal line. This is not a central lesion. It is medial and posterior. It does not extend all the way through. In one view there is no expansion of the bone, and in another there is expansion or perhaps periosteal

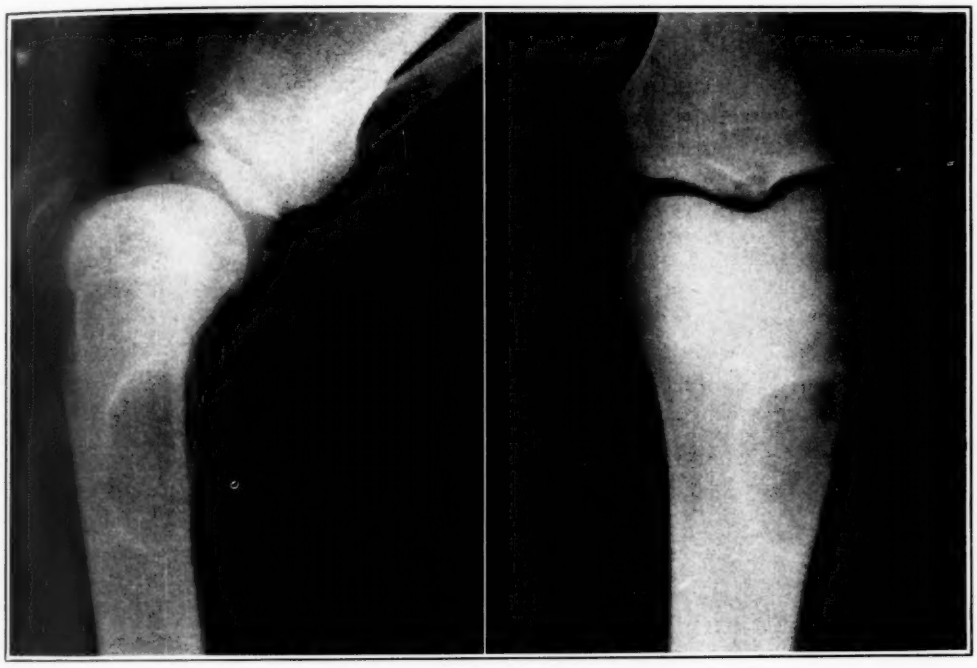

FIGURE 1. *Lateral and Anteroposterior Roentgenograms of Knee.*

proliferation; but we are not dealing here with an expansile type of tumor. The x-ray interpretation points out also that the margins are sharply defined and rather dense, which gives one the impression of something going on for some time and well walled off from the rest of the bone. No soft-tissue mass was felt, which is important because it helps us rule out a malignant lesion, particularly a primary malignant lesion, such as an osteogenic sarcoma. The skull, hands, feet and so forth were normal. They were checking to see if the patient had other cysts of the same sort. The note is made about slight decalcification of this bone and also the bones of the right foot. I am not impressed with the decalcification in the bones that I see, although I have not seen the x-ray films of the foot. Two weeks' disability is hardly time for decalcification from loss of use.

The differential diagnosis comes down to the decision whether we are dealing with a benign tumor, an inflammatory condition or a malignant tumor. I think we can rule out acute osteomyelitis because of the lack of fever, elevated white-cell count and definite localized tenderness. A lesion of this size due to osteomyelitis would probably have given symptoms much sooner than two weeks ago. Another point against osteomyelitis or a Brodie's abscess is that it did not involve the medulla. We can also rule out a giant-cell tumor. Giant-cell tumors in the femur are much likelier to be in the condyle extending down to or close to the articular surface. A giant-cell tumor in this region is usually central, expansile and spherical — that is, the transverse and perpendicular diameters are about equal. I think that we can also rule out a primary malignant tumor. The lesion does not have the appearance of an osteogenic sarcoma. The sharp line of walling off and absence of soft-tissue mass are the two cardinal points in favor of a benign condition. The blood chemistry helps us rule out hyperparathyroid disease, and also we can rule it out on the basis that this was a solitary lesion with a sharp line of demarcation, whereas in hyperparathyroidism we should expect it to fade out slightly.

The three possibilities are a solitary cyst, osteitis fibrosa cystica disseminata, the syndrome that Dr. Fuller Albright[1] described, or a chondroma. In the syndrome spoken of as Albright's disease we should ordinarily expect to have multiple lesions, although that is not absolutely essential. The phosphatase is usually elevated and I suspect that the phosphatase is elevated according to the number of lesions and the activity of the lesions. Here we have a normal phosphatase, with only one lesion. We have the statement that one observer noted two areas of brown pigmentation over the left thigh and one on the right shoulder.

DR. BENJAMIN CASTLEMAN: That observer was Dr. Albright.

DR. DALAND: Dr. Albright must have been surprised to find them on the opposite side of the body, because usually these pigmented areas are on the same side as the lesion. I am a little skeptical about these lesions anyway. I believe that they can be found in most patients if one looks for them. We have no description of their size. A few years ago at the Memorial Hospital in New York someone was interested in melanomas and undertook to see if it would be possible to remove pigmented areas in all patients who came into the clinic. The first one hundred patients averaged 20 brown spots apiece, so that the three areas in this case do not impress me much. In Albright's syndrome, patients are apt to have disordered catamenia. There is no note here that there was any. I believe we can rule out that syndrome because these pigmented marks were not definite. The phosphatase was normal. The pigmented lesions were not on the same side, and there was only one bone lesion.

Putting aside that syndrome, we then come to the old diagnosis of solitary bone cyst. As Dr. Richard Schatzki has pointed out here, these solitary cysts when opened may not contain a fluid material. It may be semisolid material and perhaps the term solitary cyst is not a good one.

The last possibility is that this patient had a chondroma. A benign cartilaginous tumor usually occurs somewhere near the epiphyseal line. I think this is near enough to fall within that category. They develop in places where there has been cartilage previously, and that is true at the epiphyseal line. Another characteristic of a chondroma is that it may get to be fairly large before it gives any symptoms. It may be that it is the periosteal proliferation, where the tumor has bulged slightly, that produces the symptoms. With a chondroma we ought to have a sharp line of demarcation, such as we have here, and that is what I believe was found at operation.

DR. FULLER ALBRIGHT: A few weeks ago we had a case somewhat similar to this which I diagnosed (correctly, for once) as neurofibromatosis, and I pointed out at that time that any cyst-like appearance at the lower end of the femur might be neurofibromatosis as this is a favorite site for such lesions. So when I saw this case shortly after that conference, that diagnosis was strongly considered. I did not believe that it was neurofibromatosis, however, because the lesion expanded the bone a bit. I thought that it was a bone cyst. I agree that the three brown spots may have been coincidental. I do know, however, that you get "my" disease (call it what you will) with lots of brown spots and lots of cysts, with a few brown spots and a few cysts, with no brown spots and one cyst and with one brown spot and no cysts!

DR. CHANNING C. SIMMONS: I cannot reconcile pain with a diagnosis of cyst. As a rule a cyst is painless. Benign tumor is rarely painful and malignant tumor is rarely painless, whereas an inflammatory condition is usually painful. In spite of the normal temperature and white-cell count I do not believe that one can entirely rule out low-grade osteomyelitis that has lain dormant for years.

DR. ALBRIGHT: The pain came on after horseback riding and presumably was due to a small fracture.

DR. SIMMONS: There is no x-ray evidence of fracture.

DR. ALBRIGHT: There is periosteal proliferation.

DR. SIMMONS: If she had a fracture, I take back that statement. I cannot see any evidence of fracture, however, in these films.

DR. WALTER BAUER: I think if we end up with anything short of a biopsy, we are not going to make the correct diagnosis. I should not be willing to rule out Brodie's abscess as readily as Dr. Daland did, because we know that Brodie's abscess can remain silent for years. We have seen instances where multiple foci of osteomyelitis occurred at the time of the original septicemia, yet only one or two of them became symptomatic shortly thereafter; the other foci gave rise to symptoms one to ten years later. In the last analysis here is a lesion that is expanding and one is certainly not doing the right thing by the patient unless a biopsy is performed and the exact diagnosis established.

CLINICAL DIAGNOSIS

Bone cyst of femur.

DR. DALAND'S DIAGNOSIS

Chondroma of femur.

ANATOMICAL DIAGNOSIS

Fibrous dysplasia of femur.

PATHOLOGICAL DISCUSSION

DR. CASTLEMAN: Dr. Smith-Petersen called me to the operating room just as he was about to unroof the lesion. He removed the cortex over the lesion exposing a cavity completely filled with yellowish-gray, somewhat gritty, fibrous material. A portion of this material was adherent to the

inner aspect of the cortical lid. The cavity was completely evacuated by means of osteotomes and gouges, and the lining was found to be roughened. No fluid or cystic degeneration was present. It was completely solid.

Microscopic examination showed this to be made up of connective tissue with a few small bone trabeculae that were neurotic and poorly calcified. The appearance was quite characteristic of fibrous dysplasia of bone or what Dr. Albright has called "osteitis fibrosa disseminata." We have just recently seen another of these lesions in a rib removed from a twenty-three-year-old girl. This was discovered on routine x-ray examination of the chest before joining the WAVES. Neither this patient nor the one under discussion had other bone lesions. With the increase in routine x-ray examination we are probably going to see a lot more of this disease and find that it is much commoner than we realized.

DR. ALBRIGHT: Are we talking about the same thing? What do we mean by a bone cyst? The pathological finding was just what I expected.

DR. CASTLEMAN: This is not a bone cyst. It is what has been called by Lichtenstein and Jaffe[2, 3] "fibrous dysplasia of bone," which is apparently a maldevelopment of the mesenchyme as the bone is formed. A solitary bone cyst is quite different. It has a definite capsule and lining and is filled with fluid. Jaffe who has had extensive experience with bone pathology is quite convinced that a solitary bone cyst is an entirely different condition from fibrous dysplasia, although the latter may have areas of cystic degeneration in it.[4] About half the solitary bone cysts are found in the upper end of the humerus.

DR. ALBRIGHT: I think the terminology is bad all the way through. Let us go back to hyperparathyroidism where three things are likely to be present — fibrous tissue, actual cysts filled with fluid, and giant-cell tumors. By x-ray they all look like cysts.

In talking of cysts clinically we do not necessarily mean fluid; it may be fibrous tissue. Perhaps we should. I appreciate that it is loose terminology not to do so, but when all the x-ray interpretations use the same terminology, one gets into bad habits.

I think the bone disease in question had better be called "fibrous dysplasia," as suggested by Jaffe, rather than "osteitis fibrosa disseminata," the term I originally used.

DR. CASTLEMAN: I am glad you feel that way about it, Dr. Albright. It will make for less confusion with osteitis fibrosa generalisata — that is, hyperparathyroidism.

DR. BAUER: The original name that you gave it would be better than "Albright's disease." I think it is unfortunate that we use a man's name to describe these things. We ought to use pathological terms that give visualization of what we see under the microscope.

DR. ALBRIGHT: Yes, but it is rather cumbersome. The term was "osteitis fibrosa disseminata with pathologic pigmentation and precocious puberty in females." I suppose a case with the brown spots and precocity but without bone lesions could be called "fibrous dysplasia sine fibrous dysplasia."

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FE, FI, FO, FUM

THE idea has long been current that if members of the human race — essentially an omnivorous species — wanted good, red blood, they must eat good, red meat. It is a simple, chromatic idea, based on the assumption that like begets like: the closer the color of the meat is to blood, the better the blood it builds. How beef cattle get such good, red blood from the grass they eat is another story; their domestic economy is of a different nature and they are put on earth for man's service.

At any rate, the belief persists that since beef is meat, meat must of necessity be beef. Mutton is a poor substitute and under suspicion, being not usually of a red color when cooked, and pork, of course, is pork. These are peasant foods and, presumably, not alone capable of preserving the virility of the descendants of the pioneers who first broke the soil of our great democracy.

With war, however, has come the rationing of many things, including food — not entirely for the sake of increasing, with beef, the bellicosity of our armed forces or of overstuffing our British allies, who for four long years have kept alive the flickering flame of freedom. It is mainly that, with limited production, the available supplies should be evenly apportioned and that each should have no less than his share because another wanted more.

To one group of persons special dispensation has been granted, as was their due. This group consists of those afflicted with certain chronic illnesses who would suffer peculiar hardships from accepting the dietary limitations to which the rest of the country has acquiesced. The stewardship of their rations has been placed, logically, in the hands of the medical profession, and already several thousand physician's certificates of patient's necessity have been granted in Massachusetts, the majority of which call for extra meat rations.

It might seem that, among the other great upheavals of the war, the fixed idea that meat must be red could also be uprooted. We are, indeed, reliably informed that lamb, pork, poultry, milk, eggs, cheese and even the lowly fish contain and furnish the same dozen essential amino acids as does good sirloin and that nutritionally these animal protein foods are practically identical — and half of them are not yet on the ration lists. Evidence seems even to be accumulating that man can exist and function on far less than his daily traditional 70 grams of protein. Add to these iconoclastic innovations the eruption of that complete food, the soybean, over the length and breadth of the land, like the dragon's teeth that Cadmus sowed, and roast beef may well go entirely on the luxury list.

CANCER CONTROL

A SYMPOSIUM on cancer control was held in New York City on October 11, the day preceding the opening of the Wartime Conference of the American Public Health Association in that city. Participants included representatives from the National Cancer Institute, the American Society for the Control of Cancer and the American College of Surgeons and from eleven states, two counties and one city having cancer programs, and among the audience were officers of the Women's Field Army.

The symposium was composed of four sessions: the first devoted to epidemiology, the second to administration, the third to service to cancer patients and the fourth to education. Approximately one hundred persons attended all four sessions, and about four hundred attended at least one session.

The symposium indicated that several trends are emerging in cancer control. The desire for prevention, early diagnosis and prompt treatment is manifest throughout the country. More rounded programs consisting of service to patients, research and education are to be preferred to a more limited program.

In New York City a cancer prevention clinic has been in operation for about three years. Approximately 7.5 per cent of the persons examined were found to have cancer and in most cases the disease was in a very early stage. The extension of the prevention clinic is a strong possibility in future cancer control.

Reporting of cancer, either through the physician or through the hospital, will probably be adopted more extensively in the future. The experience in compulsory cancer reporting by physicians in New York and in the reporting by hospitals in Connecticut indicates that both methods of obtaining a satisfactory knowledge of cancer morbidity are feasible.

A strong trend toward education in cancer in the public schools is being met by various types of programs in many different localities. From this there may emerge a clear idea of whether cancer education in the schools is expedient, and if so, what its scope should be. The values of different methods of educational approach may well alter future practices. Two experimental school projects in cancer control in Massachusetts were presented at the symposium. In Malden a unit of four lecture periods was conducted in the eighth-grade classes last spring. In Lynn a cancer unit with four elements is being given in the biology classes in one high school and in the public-health classes in another, and the entire school is being instructed through the general assembly in a third. Prior to the inauguration of the Lynn program an estimate of the students' present knowledge of cancer was made by means of a true-false questionnaire. With this as a background, measures of improvement can be made at later periods.

All in all, in spite of the distractions occasioned by the war effort, it is evident that significant advances are continuing in the program devised for the control of cancer.

MEDICAL EPONYM

LAURENCE–MOON–BIEDL SYNDROME

This eponym is applied to a symptom complex described by Solomon Solis-Cohen and Edward Weiss in a paper, "Dystrophia Adiposogenitalis, with Atypical Retinitis Pigmentosa and Mental Deficiency — The Laurence–Biedl Syndrome: A report of four cases in one family," in the *American Journal of Medical Sciences* (**169**:489–505, 1925), which they thought identical with the conditions described by the authors of the papers here summarized.

In the *Ophthalmic Review* (2:32–41, 1866), John Zachariah Laurence (1830–1874) and Robert C. Moon (1846–1914) published a paper entitled "Four Cases of 'Retinitis Pigmentosa' Occurring in the Same Family and Accompanied by General Imperfections of Development." A portion of the article follows:

> Marian T., aet. 7, 3 feet, 8 inches, in height, is a fat, flat-featured, heavy-looking child. . . .
>
> Scattered over the fundus oculi . . . were several irregular figures of a deep black color. . . .
>
> Harry S., aet. 20, is short for his age — measuring only 5 feet, 3¼ inches, in height. He walks with a slouching, heavy gait, as if he were tipsy.

The superficial stratum of the choroid is considerably atrophied. . . . A few isolated dark black pigment spots are scattered over the fundi. . . .

Frederick, aet. 18, measuring 4 feet, 6½ inches, in height, is a fattish heavy-looking boy. . . . Like his brother Harry, he walks with a slouching, helpless gait, dragging his legs from the hips.

Ophthalmoscopic examination showed exactly the same appearance as in Marian's eyes. . . .

Charles, aet. 15, measures 4 feet, 4½ inches. He is dull and inanimate, like the two other youths, and has a slouching gait, but not at all to the same extent as his brothers.

The ophthalmoscopic description of Harry applies to this boy. . . .

The height of each patient has been given for the purpose of directing attention to the dwarfish stature of the boys for their age. The organs of generation are also strikingly implicated in the general want of development.

The arrest of development was by no means confined to the eye, but affected several other organs of the body. In this latter point of view, and more especially when we regard the general imperfection of the mental faculties, these patients may in a certain sense be not inaptly compared to cretins in a mild degree.

In the *Deutsche medizinische Wochenschrift* (**48:** 1630, 1922), Arthur Biedl discusses this subject at a meeting of the Prague Society of German Physicians. A portion of the translation follows:

A brother and sister with adiposogenital dystrophy and a third patient were characterized by absence of any changes in the hypophysis or of any signs of brain tumor or pathologic intracranial pressure and by the presence of congenital malformations (retinitis pigmentosa, polydactylism and atresia ani), together with limited cerebral development, shown principally by a peculiar mental torpor. In one case a diminished basal metabolism was demonstrable. . . . This new symptom complex is to be attributed to a primary underdevelopment of the brain, especially that part of it containing the metabolism center.

R. W. B.

MASSACHUSETTS MEDICAL SOCIETY

DEATHS

BUEHLER — George van Buskirk Buehler, M.D., of Bedford, died November 19. He was in his sixty-eighth year.

Dr. Buehler received his degree from the University of Pennsylvania School of Medicine, Philadelphia, in 1895. He was founder of the Cambridge Relief Hospital in 1914. He was a member of the Massachusetts Medical Society and the American Medical Association.

His widow and a son survive.

HALLISEY — Joseph E. Hallisey, M.D., of Boston, died November 18. He was in his sixty-second year.

Dr. Hallisey received his degree from Tufts College Medical School in 1908. He was physician-in-chief of the First Medical Service and chief of the Cardiac Clinic at the Boston City Hospital. He was a professor of medicine at Tufts College Medical School and a former president of the Boston City Hospital Alumni Association. He was a member of the Massachusetts Medical Society and the American Medical Association.

LODGE — Athens V. Lodge, M.D., of Brewster, died November 18. He was in his seventy-second year.

Dr. Lodge received his degree from the University Medical College of Kansas City in 1900. He was a member of the Massachusetts Medical Society and the American Medical Association.

His widow, a daughter and three brothers survive.

PERCY — Karlton G. Percy, M.D., of Brookline, died November 15. He was in his fifty-eighth year.

Dr. Percy received his degree from Harvard Medical School in 1911. He was on the staffs of the Children's Hospital, Boston, Chelsea Hospital, Chelsea, and the Whidden Memorial Hospital, Everett. He was a member of the Massachusetts Medical Society and the American Medical Association.

His widow, a son, a daughter, his mother, a sister and a brother survive.

CORRESPONDENCE

THE LATE DR. STETSON

To the Editor: I want to thank you and A. H. E. for the facts that the obituary on Dr. Halbert G. Stetson contained, in the October 28 issue of the *Journal*.

I do not think I ever before realized how cold cold facts can be and, therefore, I should like to add a little more about Dr. Stetson, of whom we were all so fond.

He was a man who, not only when he was president of the Massachusetts Medical Society but before and afterward, gave unselfishly of his time and strength to the Society. As a young man he quite rightly chose to practice in a small county seat and grew up with the community. His endless services to people as well as his medical ability soon gave him prominence. His most outstanding work was with the development of the local hospital. His unfailing kindness and common sense placed him high with all those who were fortunate enough to have been his friends.

The medical profession needs to have more doctors develop in the way Dr. Stetson did.

Hilbert F. Day

34 Kirkland Street
Cambridge, Massachusetts

NOTICES

NEW ENGLAND DERMATOLOGICAL SOCIETY

The regular meeting of the New England Dermatological Society will be held in the Skin Out-Patient Department of the Boston City Hospital on Wednesday, December 8, at 2 p.m.

NEW ENGLAND HOSPITAL FOR WOMEN AND CHILDREN

The monthly clinical conference and meeting of the staff of the New England Hospital for Women and Children will be held on Thursday, December 2, in the classroom of the Nurses' Residence at 7:15 p.m. There will be a clinicopathological conference. Dr. Eleanor E. Cowan will be chairman.

SOCIETY MEETINGS AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING THURSDAY, DECEMBER 2

THURSDAY, DECEMBER 2

12:00 m. Radiology of the Alimentary System. Dr. Samuel A. Robins and associates. Boston Gastroenterological Society. Beth Israel Hospital.

7:15 p.m. New England Hospital for Women and Children. Monthly clinical conference.

SATURDAY, DECEMBER 4

*10:00–11:30 a.m. Medical staff rounds. Peter Bent Brigham Hospital.

MONDAY, DECEMBER 6

*12:15–1:15 p.m. Clinicopathological conference. Peter Bent Brigham Hospital.

TUESDAY, DECEMBER 7

*12:15–1:15 p.m. Clinicoroentgenological conference. Peter Bent Brigham Hospital.

2:00–4:00 p.m. Myasthenia gravis clinic. Out Patient Department. Massachusetts General Hospital.

WEDNESDAY, DECEMBER 8

*12:00 m. Clinicopathological conference. Children's Hospital.

2:00 p.m. New England Dermatological Society. Skin Out Patient Department, Boston City Hospital.

*Open to the medical profession.

DECEMBER 9. Treatment of Allergy. Dr. Francis M. Rackemann. Pentucket Association of Physicians. 8:30 p.m. Haverhill.

FEBRUARY 12. American Board of Obstetrics and Gynecology. Page ix, issue of October 28.

MAY 23 and 24. Massachusetts Medical Society. Annual meeting, Hotel Statler, Boston.

JUNE 12–16. American Medical Association. Annual meeting, Chicago. Page 798, issue of November 18.

DISTRICT MEDICAL SOCIETIES

SUFFOLK

DECEMBER 2. Censors' meeting. Page x, issue of September 16.

WORCESTER

DECEMBER 8. Worcester City Hospital.
JANUARY 12. Memorial Hospital, Worcester.
FEBRUARY 9. Worcester State Hospital, Worcester.
MARCH 8. St. Vincent Hospital, Worcester.
APRIL 12. Hahnemann Hospital, Worcester.
MAY 10. Annual meeting.

(Books Received on page xi)

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*A New Type of Medication to Be Used in Bronchial Asthma and Other Allergic Conditions. *New England Journal of Medicine* 223:843–846, 1940.

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(Hospital Literature)

BOOKS RECEIVED

The receipt of the following books is acknowledged, and this listing must be regarded as a sufficient return for the courtesy of the sender. Books that appear to be of particular interest will be reviewed as space permits. Additional information in regard to all listed books will be gladly furnished on request.

Managing Your Mind: You can change human nature. By S. H. Kraines, M.D.; and E. S. Thetford. 8°, cloth, 374 pp. New York: The Macmillan Company, 1943. $2.75.

This new work for the layman is a combination of mental hygiene, psychomatic medicine and the philosophy of life. It was written primarily for the harassed business and professional man, and is designed to relieve emotional strain and tension.

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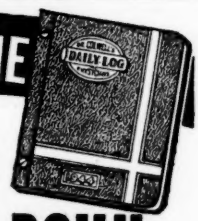

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PEDIATRICS. January 3-29. Mornings are devoted to work in the wards and out-patient children's clinics of the Boston Floating Hospital and Boston Dispensary. Afternoon visits to other institutions for study of contagious diseases, diseases of the newborn, prematurity and so forth. Dr. James Marvin Baty in charge. Tuition fee $50.

RADIOLOGY. January 10-13. A four-day course intended to familiarize the general practitioner with progress in x-ray diagnosis of diseases in various systems of the body. Not given for less than six. Dr. Alice Ettinger in charge. Tuition fee $25.

DERMATOLOGY B. January 17-22. Three mornings will be spent in the Skin Clinic of the Boston City Hospital and one morning at the Syphilis Clinic. In the afternoon there will be lectures, demonstrations, and discussions of the common dermatoses. Dr. William P. Boardman in charge. Tuition fee $25.

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